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A STUDY OF EDUCATIONAL ACTIVITIES WITHIN BUSINESS AND
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BY- MCCLURE, JOHN A.
CALIFORNIA UNIV., BERKELEY, SCHOOL OF EDUC.
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TRAINING PROVIDED BY EMPLOYERS IN A REPRESENTATIVE INDUSTRIAL COMMUNITY WAS STUDIED TO HELP EDUCATORS AND EMPLOYERS PLAN FOR ADEQUATE PREPARATION OF YOUTH FOR EMPLOYMENT. STRUCTURED INTERVIEWS WERE CONDUCTED WITH 210 EMPLOYERS OF 10 OR MORE PERSONS. QUESTIONNAIRES WERE SENT TO EMPLOYERS OF FEWER THAN 10 PERSONS. AS A RESULT, DATA WERE GATHERED ON ABOUT 95 PERCENT OF THE EMPLOYMENT IN THE AREA. ONLY 16 PERCENT OF THE EMPLOYERS PLANNED ON-THE-JOB TRAINING, BUT NEARLY 40 PERCENT HAD SOME ORIENTATION TRAINING AND ONE FOURTH PROVIDED SAFETY TRAINING. ONE FOURTH PROVIDED AWAY-FROM-THE-JOB-TRAINING, AVERAGING 8 HOURS PER EMPLOYEE PER YEAR, MOSTLY ON COMPANY PREMISES. EIGHTY FIVE PERCENT OF RESPONDENTS HAD SOME CRITICISM OF JOB APPLICANTS' SCHOOL PREPARATION. SINCE MODERN EQUIPMENT NECESSITATES EXTENSIVE AWAY-FROM-THE-JOB-TRAINING, MORE COOPERATION BETWEEN SCHOOLS AND EMPLOYERS IS NECESSARY. IT WAS CONCLUDED THAT (1) ALTHOUGH ON-THE-JOB-TRAINING COULD BE VERY EFFECTIVE, PROVISION FOR APPRENTICESHIPS AND ON-THE-JOB-TRAINING WAS TOO LIMITED, (2) TRAINING WITHIN AN ORGANIZATION WAS DEPENDENT ON THE PRESENCE OF INDIVIDUALS THERE WHO BELIEVED IN THE VALUE OF PLANNED TRAINING, AND (3) EMPLOYERS EXPECTED EDUCATORS TO TAKE THE LEAD IN DEVELOPING BETTER COMMUNICATION AND MORE COOPERATION. (DOCUMENT INCLUDES 37 CHARTS.) (RT)

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John A. McClure

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UNIVERSITY OF CALIFORNIA
Berkeley, California

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V. INTRODUCTION

The social problems and economic loss that results from the under-employment of a large segment of our population have caused national concern for the better preparation of our nation's students for initial and continued employment. This better preparation is a joint responsibility that requires government support, employers' participation and educators' efforts. Employers and educators must work together on this important task--something that has been done in too few communities.

We are aware that some employers expend considerable time and effort in developing the capabilities of their employees, while others do very little planned training. The extent and nature of this educational effort by employers was not known, even in a single urban area. Before the educators in a community can realistically plan vocational education for students they need to know what is being done by employers in that community in the way of education or training so that duplication of effort and unnecessary or obsolete activities can be avoided, necessary but neglected activities can receive proper attention, and the various responsibilities can be defined and properly allocated.

This study was made to develop general knowledge of the nature and extent of education or training done by employers in a representative community which could be useful to educators and employers in starting to solve this joint problem of the adequate preparation of all of our youth for satisfactory employment.

VI. METHOD

The community selected for this study was Richmond, California. The September, 1963, estimated population was some 79,800 persons. The City of Richmond is located on the east side of San Francisco Bay, sixteen miles northeast of San Francisco, and eight miles from the University of California, Berkeley. Richmond is surrounded on three sides by the bay and on the fourth by a residential area.

The U.S. Census of Population (1960) summarized the following information concerning Richmond:

Median family income:	$6,851	City of Richmond
	6,726	State of California
	5,600	National

Family incomes under $1000	2.7 percent
Family incomes $1000 to $4,999	23.7 percent
Family incomes $5000 to $9,999	53.9 percent
Family incomes $10,000 to $14,999	15.9 percent
Family incomes $15,000 and over	3.7 percent

Families with children under 18 years	58.4 percent
Families with children under 6 years	30.0 percent

Non-white population - 21.9 percent

This was an appropriate community to investigate because:

(1) It is typical of California's burgeoning population (Richmond's increase from 1940 to 1963 approximates 340 percent);

(2) It has a substantial non-white population;

(3) The median family income is only slightly higher (2%) than the California income median;

(4) The distribution by size of firm based on employment in Richmond corresponds markedly with other manufacturing communities in the Bay area;

(5) It has an industrial and commercial diversity; and

(6) Its location is convenient to the campus.

Names and addresses of manufacturing firms and distributive warehouses were obtained from the Richmond Chamber of Commerce Manufacturing Directory. Names of the most likely respondent were also found in this directory for these companies. Each firm doing business in

Richmond is required to register and pay an annual fee of $2.00 per employee. The name and address, and the owner's or manager's name for each firm with an office in the City of Richmond and employing at least one non-family individual, as registered, was obtained from the License Bureau of the City of Richmond. This information was transcribed onto special sheets that were designed to facilitate key-punching IBM cards for computer processing. Necessary checks and corrections were made when these two sources of information were not in agreement.

In the research proposal the employers that were to be included in the study were limited to businesses and industries. It was decided that since we were making a study in depth of the training activities of employers in a single community that all employers not listed by the License Bureau, such as local, county, state, and federal government agencies, schools, certain types of businesses not licensed, and non-profit organizations, should be included. The telephone directory and personal inquiry were used to obtain the necessary names and addresses of hospitals, government offices, banks, utilities, insurance agencies, public transportation, labor unions, and other non-licensed employers. The Survey Research Center punched the cards and prepared two sets of gummed label addresses and a printout for us. A letter was mailed out to each employer briefly explaining the purpose of the survey and that they would be contacted later either by interview or questionnaire. Returned letters served the useful purpose of finding errors in the original listings used. (Appendix B-1)

The organizations were classified by Standard Industrial Classification Codes, Bureau of the Budget, and by size. The first two digits of the code were used. There was a further grouping together where the functions performed were obviously similar, such as in the various retail establishments. The size groupings selected were one to nineteen, twenty to ninety-nine, one hundred to four hundred ninety-nine, and over five hundred employees. This is not a standard grouping but was arrived at by concluding that a single manager or owner could supervise up to twenty employees, another level of supervision would be needed for up to one hundred employees, and above that number, additional levels. The size grouping was also indicated by the nature of the distribution of the number of employees in the firms included in the study.

The available literature was reviewed to find out what methodology and techniques were used in similar studies. Interview guide questions were developed and field tested in a few diversified firms in Berkeley, including a soap and detergent manufacturer, a drug manufacturing firm, a large independent retail store, and a designer and publisher of business forms. After further revision of the structured questions the two interviewers conducted joint interviews with about twenty respondents of selected firms in Richmond. A few of the questions were further modified to make them clearer to the respondent, and more discriminatory. This then became the interview guide and was used without further revision (Appendix B 2-11).

Two separate data sheets were developed to obtain information on off-the-job (or better understood as away-from-the-job) education or training activities. One form covered each type of activity provided by the organization for their own employees. The other covered the type of activity supported by the organization but provided by some outside group. These two forms should have been combined. (Appendixes C 1-2)

All firms with ten or more employees, and a few with less than ten, were scheduled for interview. About 210 interviews were conducted. This covered all but 12 firms employing ten or more, and reached approximately 90% of the employment in Richmond. Interviews required from 45 minutes to more than three hours, depending on the size of the firm, the extent of their training activities, and the interest of the respondent in the survey. The average length of interview was about 90 minutes. An occasional joint interview was made by the interviewers, and progress, questions, and experiences were often discussed to maintain consistency. During the latter part of the interviewing period the answers to the questions that had been asked in the interviews were studied and grouped into distinct categories. These groupings, more clearly stated, served as the possible alternate answers for those questions to be asked in the mailed questionnaire, and as a basis for coding the data. One thousand, three hundred sixty-five questionnaires were mailed out, with a stamped return envelope, to the remaining employers with fewer than ten employees. *One hundred forty-nine (11%) usable questionnaires were returned.* This represented an additional 2.7% of the employment in the City of Richmond and is accepted as usual for the response to mailed questionnaires. (Appendix D 1-8)

After preliminary tabulation and programming the Survey Research Center and the Computer Center, University of California, Berkeley, prepared the data and computed the summaries and percentages listed in the appendix.

The data from this study was processed through the BC TRY cluster analysis program developed by Professor Robert C. Tryon, Department of Psychology, University of California, Berkeley. Essentially the technique is an extension of factor analysis that is made possible by the computer.

Only one major employer, the University of California, operating extensive laboratory and storage facilities located in Richmond, was not included. It was found that the direction and control, the payroll and the personnel records, services and employment were centered in several departments located on the campus at Berkeley. To gather the necessary information would have been a nebulous and time consuming task.

Fifteen manufacturing firms, each employing over 200 persons, outside of the city limits of Richmond but in Contra Costa County, participated in a supplementary survey. Included were major petroleum refineries, chemical processors, a roofing manufacturer, a basic steel plant, a gypsum board manufacturer, a research and development firm, a food processor, a smelter, and an electronic instrument manufacturer--firms similar in process and size to those found in Richmond. The data obtained by interviews from these firms are not included in the summaries for Richmond but are included in the appendix and have been used for making comparisons in the results and discussion sections of the report.

VII. RESULTS

Since the appendix provides the tabular summaries and percentages from the computer printout, this section of the report will be limited to explanations of the tables and graphs and some of the pertinent terms used in the report. Comments on significant variations that may be related to type of industry, size of industry, title of respondent, level of managerial control, occupation, or type of course, as indicated in the detailed printout or statistical analyses, will be included in the "Discussion" section of this report.

The occupational categories selected were based on the distinct types of education or training usually given before or after employment to qualify a person for that employment. An operative generally qualifies by on-the-job training and away-from-the-job training has been usually incidental except in those few instances where vestibule type of training is given. Changes have been taking place so rapidly in two or three of the large process or flow type and mass production industries contacted that the on-the-job training of the operators of control centers was being supplemented with intense away-from-the-job training. This was not learned by the interviewers until after considerable data had been gathered. The petroleum refinery in Richmond accounts for about thirteen percent of the operatives. Of this number, four-fifths are skilled process operators and one-fifth is unskilled material handlers and laborers. All of the skilled process operators have or will receive related class work. These operators are included in the operative occupation summaries, however.

The journeyman-trade craftsman occupation requires a combination of on-the-job training and experience and off-the-job related course work or its equivalence gained from years of self-education and experience. This training is broad enough to qualify for the trade as well as the specific job. The so-called professional trades that require licensing, such as barbers and cosmetologists, are also included in this category.

The clerical occupation usually, but not necessarily, requires some secretarial or business courses before employment. Most of the training given clerical personnel is on-the-job.

Sales includes the full range of sales personnel from store clerks to professionally trained industrial salesmen.

Technicians, to avoid some of the problems of other researchers, were defined as requiring a minimum of two years of college with course work in technology, or its equivalent in self-education and experience.

The professional occupation requires a college degree or its equivalent in experience and self-education. This category included accountants, scientists, engineers, teachers, physicians and lawyers.

Persons with professional degrees having major managerial responsibility were classed as managers.

The first-line supervisor or foreman is usually considered with management but the training he sometimes receives away from the job is centered on developing supervisory skills. We wanted to make that distinction and so included this occupational category. This is the direct supervisor of the doer, but does not include working leadman. In the questionnaire supervisor and manager categories were grouped together.

Managers included top executives, plant managers, office managers, production managers, sales managers, department managers, personnel managers, chief engineers, and research directors.

The titles for the type of course categories for away-from-the-job training are somewhat self explanatory. Job related proved to be those few training activities that covered new model changes. Occupation related included the bulk of the training activities outside of managerial and supervisory courses. Supervisory away-from-the-job training covers content for developing supervisory skills such as interviewing, instructing, work planning and work simplification. Management training places more emphasis on broader matters, such as policies, organization problems and budgeting. Tool subjects included mathematics and sciences. Communication courses include public speaking, letter writing, telephone courtesy, and report writing, even when limited to supervisors or managers. Broadening courses include such content as sensitivity training, art appreciation, community affairs, and economic and social problems (Appendix A-23).

The numbers 359 and 210 in the right-hand column of the graph tables designate the basis on which the distribution and percentages for that particular table were made. There were 210 interviews and 149 returned usable questionnaires, for a total of 359. Not all the questions asked in the interview are included in the questionnaire and some of the questions were not asked in the first interviews. In some instances the respondents insisted on taking the interview guide and mailing the answers in, but failing to answer all questions. Many respondents in answering questionnaires also failed to complete answers to all questions. There were some questions where more than one alternate was chosen so the total answers to a question can exceed 359. (Appendix A-13 and following)

With some questions it was pertinent to show how the question was answered by size of firm. As mentioned in an earlier section, the size categories selected were as follows: 1, 1-19 employees; 2, 20-99 employees, 3, 100-499 employees; and 4, over 500 employees. These are designated to the left of the graph part by the numerals 1, 2, 3, and 4. The number at the end of each percentage graph line is the count of "yes" responses to that question or alternate. The appropriate tables in the appendix should be reviewed in conjunction with the discussion comments in the next section of this report.

VIII. DISCUSSION

A. Distribution of Occupations by Size and Type of Industry (Appendix A 1-7)

Three hundred fifty-nine organizations in the City of Richmond, California, furnished usable information for this study. These 359 organizations constitute only about one-fourth of the employers in the city but account for about 95% of the employment. There are 149 firms with more than 20 employees. These provide about 90% of the employment in Richmond and 94% of the employees included in this survey.

Fifty-three organizations employing more than one hundred account for 77% and seven organizations employing more than 500 account for 53% of the employees.

The totals and percentages quoted in the rest of this report will be based on employees and firms included in this survey. Data collected from the cooperating firms outside of Richmond but in Contra Costa County are not included in the totals or percentages for Richmond.

Fifty percent of those employed work in manufacturing industries. Of these, twenty percent are in chemicals and petroleum and 13% are in metal fabrication. Other major employers are wholesale warehousing and distribution, 10%, local schools, 11%, and government, 7%.

The value in making a distribution by size of industry is found in indicating where to concentrate effort to get the most return on the limited time usually available to investigators. When ten percent of the firms in a community provide over 90% of the employment, it seems foolish to include all those many firms with fewer than twenty employees in a concentrated study. This study would have been just as valid had we eliminated the questionnaire and depended entirely on the structured interview for gathering data from the firms with more than twenty employees. The interviews proved to have many advantages that more than offset the added expense. Not more than twelve employers scheduled for interview refused or failed to respond, whereas only eleven percent of the questionnaires were returned. Many of the respondents complained about the deluge of meaningless questionnaires they were asked to fill out and return that ended up in the waste basket. Explanation of terms and purposes was readily available which actually required less of the respondent's time in providing complete information and reduced delay in gathering the data. Quite often what was left unsaid or mentioned indirectly or candidly provided insights that could not be obtained in any other way.

In many instances this was the first time that an employer had been contacted by an educator and given a chance to express his viewpoints. The questions asked provoked many employers to discuss their training problems and to take a look at what they are, or are not, doing to develop their own work force. In most instances the interview generated good public relations.

There were a surprising number of firms employing between 50 and 100 that had very little, if any, contact with the schools, yet their respondent expressed interest in establishing a closer working relationship. This is a size group that school representatives should contact and establish a basis for further communication and cooperation.

Forty-two percent of the employment is found in the operative category and nearly half of these are in the firms with between 100 and 499 employees. Journeymen accounted for 16% of the total and about the same for each size group. Apprentices were listed as operatives. Twenty percent of the 1-19 size group were in the clerical occupation whereas in the over 500 size group clerical was only eight percent.

Fifty-seven percent of the operatives are found in manufacturing with 19% of these in the chemical and petroleum industries. Journeymen are concentrated in construction (15%), chemicals and petroleum (22%), metal fabrication (26%), and utilities (8%). Two hundred twenty-six salesmen are employed in the manufacturing industries. The sales occupation was not found in the seven organizations employing more than 500 because some, such as the schools, would have no sales force, and the rest have their independent sales offices located elsewhere.

The offices for the Richmond School District are in the City of Richmond although many of the schools are located in adjacent cities. All 2611 employees of the district are included in this survey. Of these, 1744 are teachers and are part of the professional occupational group. If the school district employees are not included the total percentage of employment in Richmond of professional occupations drops from 13% to 7%, with some of the other occupations in Richmond changing by one or two percent, and the total number of employees in the 500 and over size group dropping from 35% to 28%. The professional occupation consists of 55% teachers, 29% engineers or scientists, 9% office professionals and 6% in health.

The ratio of the number of managers, including supervisors, to total employment in the Richmond survey is 1 to 12. The ratio for construction industries is 1 to 10, manufacturing is 1 to 16, research is 1 to 12, education is 1 to 14, and all the government agencies together are 1 to 11.

Although our definitions of the trade craftsmen, or journeymen, clerical, technical, professional, supervisory, and mangerial occupations were satisfactory in gathering and interpreting data, the operative and sales definitions proved not quite adequate. We should have separated the operative category into operators and service employees, or a similar grouping. The operative occupational group has received limited attention in vocational education in the past. The change from predominantly manual work to work that involves mental and visual control and operation of machines that perform this repetitive labor requires today's operator to have a command of related knowledge, and the capacity to apply this knowledge. Schools need to determine the educational requirements for this new breed of operator and provide appropriate curricula.

The sales occupation analysis probably would have been more meaningful if we had differentiated between customer walk-in and call-on-customer, industrial goods type of salesmen, because the latter usually requires special academic or experience preparation.

B. Education Requirements (Appendix A-8)

Slightly over one-half of the respondents answered that their firm had no minimum educational requirements of applicants for employment as operators--size 1, 1-19, 49%; size 2, 20-99, 53%; size 3, 100-499, 39%; and size 4, over 500, 14%.

Minimum educational requirements for clerical applicants showed no significant pattern according to size of firm or type of industry. Three-fourths of the firms required at least a high school education for clerical employees.

By definition, there should have been a minimum educational requirement of two years of college or technical institute or its equivalent for technicians but 35% of the 1-19 size group reported less than this requirement.

Professional degrees are required of salesmen in most of the scientific instrument and chemical industries.

Seventy-seven percent of the small firms (1-19) and 68% of the larger firms (100 and up) will accept for supervision those with only a high school education. Ten percent of the firms with over 100 employees require a college degree for their first-line supervisors. Sixty-five percent of the firms of the 100 up size require a college degree for their managers. Sixty percent of the 1-19 size firms will accept less than a college degree for managers.

The fact that fifty-two percent of the firms had no minimum educational requirements of applicants for employment as operators is surprising but may be the result of our original definition of the operative occupation. This occupation includes both simple unskilled jobs and those requiring knowledge and judgment. Although an employer would require no specific minimum educational attainment for the simple unskilled jobs in his firm--and on which he would base his answer to this question--it is reasonable to expect that he would require formal education commensurate with the demands of more complex jobs, or its equivalent in experience and self-education.

The mass production or process industries in Richmond have supplied a good share of the jobs for the drop-out in the past, but increased mechanization has been displacing these repetitive manipulative jobs. There are jobs available for those who are drop-outs but they are more apt to be in the manufacturing firms with fewer than 100 employees where the firms cannot finance the cost or it is not feasible to mechanize. These jobs usually are not listed or publicized and must be sought by the applicant.

The large percentage of employers (47%) who have no minimum education requirement for trade craftsmen is difficult to understand and explain. The explanation we offer is that a considerable number come in to the trade through long years of experience with trial and error learning and some self education, rather than by serving an apprenticeship. The employment turnover, other than in the construction industry, is usually low in this occupation and respondents have a tendency to base their concept of replacement requirements on the education level of their present trade craftsmen. Those firms with apprenticeship programs usually require high school graduation or its equivalent of its apprentices. Most employers questioned on this point would much prefer to hire mechanics who have served an apprenticeship or who have had sound formal training for the trade but often must fill the vacancy with the immediately available applicant that is best qualified.

An increasing number of employers recognize the need for higher educational requirements for those in direct or first-line supervision but find graduates of business administration schools not interested in these jobs. Evidently employers are turning to the junior colleges to supply this need both as a source for future supervisors and as a means of upgrading their present supervisors. There were a total of 442 employees from 166 firms enrolled in the management and supervision courses presented by the two Contra Costa County junior colleges in the Spring of 1967. Seventy-seven employees from 19 firms in the Richmond survey and 45 from 11 of the 15 firms in the county were a part of this group. The program and the numbers enrolled in the management-supervision courses at these junior colleges have been growing steadily over the last several years.

The scientific and technically oriented firms usually require a professional degree for management personnel.

Minimum educational requirements vary widely even among those firms of equivalent size in the same industry.

C. Experience Requirements (Appendix A-9)

The percent of firms that will hire an operative without experience that qualifies him for the job does not appear to vary significantly by size of firm or type of industry except that a larger proportion of the firms in the 1-19 group and a couple of large firms that depend on the unions for new employees require experienced applicants. One-third of the employers with fewer than 500 employees expect technician applicants to be experienced so that no further training is necessary. All the firms larger than this expect to give their technicians significant additional training. Two-thirds of the 1-19 size firms expect professional applicants to be experienced so no further significant training is necessary, but two-thirds of the firms with over 500 employees will accept professionals fresh out of college with no work experience.

It is into the broad operative occupation that over half the employers place inexperienced employees. Usually the first assignments are simple, the lowest paid and least important. These jobs often serve as the trial period for the new employee. There are a significant number of employers, however, who require previous work experience of some kind that can serve as a source of information as to whether the applicant for an operative job knows how and is willing to work.

Since trade craftsmen usually work with a minimum of supervision, three-fourths of the employers require fully experienced employees in this occupation. There are a substantial number, however, that expect to give extensive training to their trade craftsmen. These firms have found that it pays to give their mechanics specific training instead of having them learn about the machines and equipment by trial and error, or from manuals.

One-third of the employers are willing to hire girls out of high school for clerical jobs but usually require course work in shorthand and typing. Many of the respondents who required previous experience in similar work for clerical applicants classed course work in a business school as acceptable in lieu of the experience. We have no explanation for the significantly smaller percentage of firms in the 100 to 499 size group that will accept applicants for clerical work with no previous experience--i.e., 1-19, 30%; 20-99, 46%; 100-499, 22%; and 500 and over, 43%.

The question on minimum experience requirements of applicants for supervision, usually employees of the firm with extensive work experience, was somewhat ambiguous in that it did not differentiate between experience in the occupations to be supervised and supervisory experience. Some respondents thought in terms of one and some in terms of the other, largely depending on whether the firm had supervisory training programs in operation or encouraged their new supervisors to attend classes in supervision provided by the local junior colleges.

D. On-The-Job Training (Appendix A-10, 11)

On-the-job training, although we had no practical way of measuring the proportionate time, is surely the most prevalent method of training used by employers. Since job requirements and the way jobs are learned vary so much, it was decided that the best measure of on-the-job training would be the effort and thought devoted to planning for this function. The familiar job instructor training concepts and techniques of job analysis and planning for teaching were used as a basis for formulating the two questions and their alternatives as listed on the table. We found that the question, "Which of these statements best describes your firm's on-the-job training for each group?" was better understood and less confusing than the two questions asked together. The other question, "To what extent do you prepare for on-the-job training in the various occupational groups?" was, therefore, not included in the questionnaire. The four alternates to the question, "Which of these statements best describes your firm's on-the-job training?" were quite satisfactory in providing clarity and delineation.

The number of respondents reporting using job analyses in preparing to teach a job is probably too high because many firms have written job descriptions for wage and salary administration but few have made job analyses for training purposes.

Only fifty-six (16%) of all companies reported using planned on-the-job training. These 56 have about 37% of the employment, however.

Over 80% of the employers expected their employees in the trade craftsmen, professional, first-line supervisor, and managerial occupations to be so well trained and experienced that they would need very little, if any, on-the-job instruction in their new assignment.

In contrast, over 80% of the employers expected to spend some time in on-the-job instruction with their operative and clerical groups. Only about 10% of these employers use planned job instruction. This is indicative of the lack of appreciation for the value of well-planned and implemented training to an organization. Planned job instruction can be one of the best ways to develop training consciousness in an organization.

A few of the respondents from firms with organized training stated that employee interest and performance can be markedly improved through planned job instruction without much additional cost. One well informed training director gave this interesting observation, "Even when exposed to the techniques and application of job instructor training (JIT) the reaction of some supervisors is, 'This is fine but I don't have time to teach.' A good rejoinder is, 'Are you too busy to teach or are you too busy because you haven't taught?'"

E. Safety Training (Appendix A-12)

Formal safety training is well established and given support in most of the larger manufacturing industries, utilities, banks, medical organizations, and wholesale-warehousing firms. Some firms have developed extensive fire prevention and fire fighting programs involving nearly all employees and requiring considerable training time. The banks have programs on what to do in hold-ups and safe patient handling programs are found in medical organizations. One firm in the County is requiring every employee to attend a ten hour driver training class on company time. This is a part of the National Safety Council Driver Improvement Program.

It is surprising that so many firms (30%) have no formal safety training programs established even though they have recognized accident hazards, especially since such programs lead to reduced premiums on Workmen's Compensation Insurance. This quite often offsets the added cost of training.

F. Orientation Training (Appendix A-13)

The planned induction of new employees is practiced more widely than we had expected. Some of it is probably superficial, but most of the firms with planned induction consider it worthwhile. Time devoted to planned induction or orientation training varies from an hour to several days. In one large organization orientation is handled by the staff of the education department. Two weeks are required. Included in the training are company history, personnel policies, rules and practices, well-planned visits to operating units, safety, terminology of the industry, basic processes, explanation, operation and care of major equipment, instrumentation, quality control, employee responsibilities, procedures, and many other items of information that are expected to help the new employee understand and adjust more readily to his work environment. Well developed teaching aids and learner participation are used when possible. This orientation training, the education staff senses, has enhanced the new employee's interest in and receptivity to the job training that follows.

The percentage of firms providing employees with a personnel handbook increases with size. Most of the small organizations in Richmond giving handbooks are branches of larger organizations with central offices located elsewhere.

G. Apprenticeship Training (Appendix A-14, 15, 16)

Only those programs of apprentice training that required related class work were included. There were a few firms that were developing journeymen by providing work experience but without requiring attendance in related classes at the junior college, correspondence courses, or other sources. There are 3810 journeymen, as defined, in Richmond, or 16% of the total employment, and 245 apprentices, or 1%. The construction industry was slow at the time the data was gathered so the number of apprentices in the building trades was smaller than usual. Management in one large firm had curtailed its extensive apprenticeship program because the firm was losing too many of its graduate apprentices to other employers, but they had no choice but to revitalize and enlarge their program at the time of this survey. The owner of a machine shop that has an effective apprenticeship program had just about decided to eliminate it when he discovered that the graduate apprentices he had lost were largely responsible for new and appreciated business coming to the firm.

Most of the construction firms do not enter into formal apprenticeship contracts.

The respondents offered various reasons for their dissatisfaction with their apprenticeship programs. An iron foundry that was highly mechanized complained that the apprentices were learning to be hand moulders and not made adept or knowledgeable in the new production technology that had been adopted by the firm. Some employers were disappointed in the small number of apprentices that remained with the company after completing their apprenticeship. Much better earnings elsewhere, that could not be matched because of company policy or wage and salary structures, enticed most of them away. Some employers complained of the poor quality or relevance of related course work. Turnover of apprentices, especially in the construction industry, is a problem. Another major problem is that of getting the apprentice to complete his apprenticeship and not accept a production job in the trade.

Real work experience, usually stretching over a period of four years, has been the heart of apprenticeship training. This study revealed that the managers of a few large companies that are experiencing rapid growth or changing technologies believe that developing skilled craftsmen through apprenticeships is too slow. Two or three of these employers have turned to more thoroughly planned and organized training methods and are screening carefully the candidates for this training. They are using the vestibule school technique to train their skilled mechanics instead of apprenticeships. Well-equipped laboratories and classrooms are provided. The student employee attends classes full time under close instruction by qualified instructors until he reaches the degree of proficiency expected. Retraining and upgrading is also provided in these vestibule schools. On-the-job experience of the trainee is carefully worked in with the rest of the training program. They may not be turning out the "well rounded" mechanic of the past, but they are filling their needs for knowledgeable and competent specialists of the present in a much shorter period of time and at a lower cost. If this idea spreads, the impact on vocational education can be significant.

The large firm in Richmond with over half of the apprentices presents the related course work itself. This includes the theory and mathematics for each craft, physics, petroleum technology, blueprint reading, and other related classes. The actual work experience is carefully scheduled each year so that every apprentice is assured of complete preparation.

In a few of the manufacturing firms with apprentice programs, the apprentice is given the opportunity to gain some experience in the related trades by working under journeymen in those trades for a prescribed period of time.

H. Union Effect on Training (Appendix A-17)

Management in 214 (60%) of the firms deal with one or more unions. Sixty-three percent of these respondents reported that the labor management agreement had no effect in either encouraging or limiting training activities. Fifteen percent reported the agreement encouraged training, and 21% reported that the agreement limited the firm's training intent or efforts. The reasons usually given for the agreement's limiting training activities were seniority clauses, wage differentials, and hiring restrictions.

Those few business agents we talked to seemed to be just as interested in having well-qualified members in the union as the employers desired well-trained employees. Opinions differ on how to do it. Often these opinions are strongly held, so unrealistic clauses that affect training are often left in the agreements because it is less painful to live with them than try to effect a change. In some of the building trades the less than competent journeymen, who learned enough about the trade over a period of years of 'job hopping' to meet the minimal requirements of the union, create headaches for the business agent as well as the employer, but aspirin seems to be the only relief.

I. Away-From-The-Job Training - Employee Selected (Appendix A-18 to 21)

In developing the structured questions on away-from-the-job training, the need was apparent to separate the courses that employees selected on their own volition from those that the employer promoted or suggested that the employee take. The employee-selected courses are usually provided by junior colleges, state colleges, university extension, adult education, private colleges and trade or technical schools and correspondence schools. The public junior colleges do not charge tuition to California residents and the incidental fees are quite nominal. A large number of classes are given in the evening and are available to regular day students as well as those persons who are employed during the day and can take classes only at night. It was impractical to determine the number of employees of the firms in Richmond who complete courses at the junior colleges. Few of them tell their employers even when it is suggested in the employee handbooks. It is when the cost of tuition is significant and the employer has a policy of tuition refund that the employer learns about the employee's efforts toward continuing his education. University Extension courses and those offered by private schools are not funded by the State or community and therefore depend on tuition or fees for support. It is to this group of courses that questions on refunds have primary reference.

The measure of effectiveness of course announcements in motivating employees of the firms to enroll in courses offered by these schools should be accepted as an estimate. The respondent was not necessarily the one who would receive the announcements in that particular organization and a few spot checks showed that he had not been informed. In some firms the announcements were treated indifferently while in others management was quite diligent in calling their employees' attention to the announcements and encouraging them to participate. Some means should be developed to increase the employer's interest in informing their employees of the educational opportunities that exist. The fear of losing a docile but satisfactory employee because he has become "educated" is a poor argument for indifference.

Nearly one-third of the respondents indicated that their firms did not receive announcements of scheduled courses offered by the local schools or university extension. Twenty eight percent of size 1, 33% of size 2, 55% of size 3, and 77% of size 4 firms stated they received course announcements from adult education, junior colleges, university extension, trade associations and/or other schools. The differences in percentages appearing in the table in the Appendix are from the firms that did not reply to this question or only received announcements from one or two of these sources. The number of employers posting these announcements increases from 10% of size 1, 26% of size 2, 66% of size 3 to 71% of firms over 500. Eleven percent of the 1-19 group do not pass the information on. Although 43% of the respondents in group 4 believe the response to these announcements has been good, employee response generally has been disappointing. Those several respondents when asked why more of their employees did not take advantage of the educational opportunities in the community were unable to give a reason. One manager of a small manufacturing firm, where nearly everyone of the production workers regularly attended evening classes at the junior college, thought that their good showing may be due to one employee enthusiastically selling the idea to the others. A few respondents remarked that when an employee attended one course and found it both profitable and pleasant, he usually continued with other pertinent courses.

One hundred twenty-nine firms (36%), in Richmond have a policy of reimbursing employees for employee selected, firm sanctioned, extension or c orrespondence courses successfully completed. All the county firms reported giving refunds.

TABLE OF ELIGIBILITY FOR TUITION REFUND

Size of Firm	Number of Firms Refunding	Percent of Firms Refunding	Firms With All Employees Eligible	Firms That Limit to Salaried Employees	Firms That Limit to Selected Employees
1	44	21%	12%	1%	8%
2	50	52%	25%	13%	16%
3	30	65%	41%	11%	13%
4	5	72%	43%	---	29%
County	15	100%	53%	27%	20%

The companies that restrict eligibility to salaried employees are mostly in the 20-499 size groups.

About 15% of the respondents had no policy regarding refunds for employee-selected extension or correspondence courses. Many of these stated the question had never come up so they had developed no policy for refunding. Just because the employer does not refund for tuition is no reason to believe he is opposed to his employees enrolling in these courses.

Eighty-three percent of the refunding firms carry refunds as an operating expense.

The number of employees involved in employee-selected courses and the total number of hours and cost to the firm were impractical to obtain because most firms keep no ready record of it. For instance, the respondent in a research organization employing about a thousand, when asked how much tuition refunds cost annually became curious and asked the accounting office to get the figures. It took some time to obtain this cost information.

If employee response to announcements and the number of firms that have a policy of granting tuition refunds are criteria of interest in manpower development in a community that has more than average educational opportunities, interest is not what it should be.

J Away-From-The-Job Training - Company Provided (Appendix A-22 to 28)

Away-from-the-job training proved to be a better term to use than off-the-job training because the respondent could more easily develop a clear mental picture of the training activity. Away-from-the-job training is usually group training although individual instruction can occur through reading and problem assignments, programmed texts and teaching machines, simulators and planned research studies.

Away-from-the-job training can be given by the firm or provided by some outside organization. The distinction we made between away-from-the-job training, employee selected, and away-from-the-job training, company provided, was a workable and satisfactory way to differentiate and classify. Trade and professional convention attendance was included in the data when the convention program added planned and organized training to the displays of commercial products, processes and materials.

One hundred eight organizations reported away-from-the-job training activities. When the criteria of 40 hours or more per course, instead of eight hours, is used to qualify a training activity for inclusion, the number of firms with away-from-the-job training drops from 108 to 57. The percentage of firms in the various size groups with some form of away-from-the-job training activity with a minimum of eight hours per year is 1 - 21%, 2 - 40%, 3 - 48%, and 4 - 71%. When the minimum number of hours per year is set at 40, the percentages drop to 1 - 7%, 2 - 23%, 3 - 34%, and 4 - 57%.

Since we could not obtain cost figures for training from each firm, the measure we selected for comparison was the annual number of hours devoted to training by number of employees in that firm. This ranged from nothing to 95 hours. The average for all 108 firms was eight hours.

The largest employer in Richmond with 10% of the employment accounts for 37% of the away-from-the-job training hours. The ten organizations, with over 3000 training hours each, and with one-fourth of the employment, account for 83% of the hours spent on away-from-the-job training. The average annual number of training hours per employee for this group is 25.6.

One bank accounts for 75% of the training in all the banks. One firm accounts for 61% and another for 38% of the training in the utilities. The Contra Costa County agencies in Richmond provide 95% of the training in local governments. One firm in primary metal provides all the training reported in that industry. One firm in the chemical-petroleum industry accounts for 90% of the training hours in that group.

The 15 county firms do not range as widely as those in Richmond in the average annual training hours per employee, but there is still a marked variation with three firms reporting none.

Rapid growth or rapidly changing technology may account for some of the industries devoting more time to away-from-the-job training than others, but there was little evidence to support this conclusion.

Many of the sixty firms in Richmond that conduct away-from-the-job training activities on their own premises provide comfortable conference rooms equipped with blackboards or easels, and projectors. A few have classrooms and other types of teaching aids, such as closed-circuit television, elaborate simulation devices, and programmed teaching machines.

Why do some industries provide these facilities and go to considerable expense in presenting training activities on their own instead of turning to the schools? A primary reason given was the matter of convenience--to the employee and to management--in time and availability. Another is control of the activity--who shall instruct, what specific content shall he cover, and how? Sometimes the schools are not able or willing to provide the facilities or qualified instructors so the industry must go ahead on its own. Employers often prefer to have their own personnel, who are familiar with the firm's technology, policies and procedures, and who knwo the employees, teach these classes. Seventy percent of the courses are taught by trained instructors. Most of these had received job instructor training (JIT).

The Contra Costa County offices, real estate firms and banks utilize outside consultants and association personnel extensively as instructors. One private training firm in the area conducts supervisory training sessions for several Richmond firms. Some of the courses listed draw instructors from several sources. Corporate headquarters in these instances are located in the Bay Area but not in Richmond or Contra Costa County. (Appendix A-27.)

Although the teaching in industry can be just as dull as some college classes, the intense interest and enthusiasm shown by students in a few classes we observed in session was rather obvious. Evidently the theories and principles that were being presented and the way they were presented became much more meaningful when the student could see or visualize application.

Eighty firms reported promoting educational activities that were provided by outside organizations. Here are some of the reasons given by respondents of larger firms sending employees to, or using the faculty of, colleges and universities and other sources. A large research organization utilizes university faculty members because of their expertise and specialized knowledge. This also encourages cross fertilization of ideas and know-how that is gained when professional employees from different firms get together in these university provided classes. Much of the training in business and industry is non-repetitive or not continuous. Many employers, including large ones, are hesitant to establish, even temporarily, a training organization because of the fear it will become a marginal operation and a permanent overhead expense that may be painful to remove. They prefer to avoid this possibility by using outside facilities and professional instructors. A few respondents mentioned their experience with the miserable teaching performance of some of their managerial personnel in past attempts in training as the reason for going outside their organization.

There were a few classes in chemistry, physics, mathematics, and electronics provided by employers that probably duplicate courses offered in the junior colleges. Academic credit for these courses may not be important but there are probably employees participating who would like to have it. It could very well be the incentive for some of them to continue their formal education. Perhaps arrangements could be made for accreditation where indicated.

K. Respondents' Opinions on Job Applicants' School Preparation (Appendix A-29, 30, 31)

The three questions, "What prevalent attitudes or values expressed or demonstrated by recent job applicants do you think the high schools should attempt to change in their students?" "How do you think this attitude changing can be done by the schools?" and "Are there particular courses that a high school student can study that would be especially useful if employed by your firm?" seemed to strike a chord of interest in nearly every respondent. Opinions expressed were often strongly held.

About seventy percent of the respondents, representing 65% of the employment, had at least one criticism of student values and attitudes. Some offered suggestions for improvement without registering a complaint. In all, about 85% of the respondents, representing 90% of the employment, offered some criticism of the "school's product." Many of these respondents in the interviews were careful to explain that they were not interested in censuring the schools because the "product" being turned out today is generally better prepared than those of the past. They wanted to provide feed-back information to help the schools do even better for all students.

The respondent for the Richmond Unified School District thought it was inappropriate to answer these particular questions so this part of the data does not include the public schools.

Since most of the respondents were top management people, their appraisal of job applicants could very well be different than the person doing the employment interviewing in their firms, who would have more direct contact. The type of industry and the reputation of the firm in the community will also affect the kind of applicants they receive.

Nearly half the employers are concerned about the deficiencies in basic grammar, spelling, penmanship, reading, and/or arithmetic shown by otherwise well adjusted and intelligent high school graduates. From this reaction it would appear that the schools are really unjust to students when promoting them even though they have not mastered these basics. Students should be made aware of the importance that employers attach to these subjects and required to put forth the effort needed to learn them.

More respondents in the larger firms expressed the opinion that science courses and mathematics were particularly desirable for their firms. These were usually in the research and technical industries. There were respondents in non-technical industries who thought the schools had erred in reducing this requirement for all studetns because of the impact technology and mathematics has on our lives today.

Those firms dealing with the public were preponderately in favor of a high school course in human or interpersonal relations, although some respondents in nearly every other SIC group also suggested this course as being useful. Interpersonal relations must be of widespread concern for over 40% of the firms contacted suggested it. Evidently we cannot depend on togetherness in the classroom and on the campus to get the job done. None of the respondents offered information on what such a course should include or how it should be taught. We do know that much time is spent in supervisory and management training on developing skill in interpersonal relations with some degree of success. Perhaps public school educators should turn to business and industrial trainers for guidance in this matter.

Twenty percent of the respondents indicated the need for a course in business economics. Size of company, type of industry, or title of respondent gave no significant variation from this 20%. There is some organized interest shown by area business and manufacturing associations in helping high schools and junior colleges to offer and encourage more students to enroll in economics courses. Evidently this interest is not shared by the majority of employers in Richmond.

Banks were nearly unanimous in suggesting business courses and courses in remedial arithmetic.

One puzzling outcome of the question on course suggestions was the relatively small number of respondents who suggested shop courses as being desirable. None of the utilities and only one-fourth of the construction, scientific instrument, transportation, chemical-petroleum, and miscellaneous manufacturing industries mentioned shop courses as being especially useful for students employed by their firm. Three-fourths of the metal fabrication and two-thirds of the printing industry respondents thought shop courses were necessary, however. The construction, metal fabrication and primary metal industries were especially interested in blueprint reading courses.

A few of the respondents suggested teaching work simplification (planning work to be done in the easiest and simplest way) in high school because it would be a knowledge and skill that a student would use in whatever vocation he entered later.

Judging whether the responses to the questions on attitudes and values are typical only of today's graduates or were equally true of the last two or three generations of youth would be conjecture on our part. These employer notions are real, however, and should not be disregarded by educators, or students.

L. Employer-Educator Communication and Cooperation (Appendix A-32, 33, 34)

Seventy percent of the employers expressed willingness to help students in some way gain a meaningful understanding of occupations and working for a living. Of the 30% who answered there was no practical way in which they could help, two-thirds were in the 1-19 size group. Some of the ways expressed would require little effort or inconvenience from the employer, but the majority of employers would extend themselves to provide ways and means to make the world of work meaningful.

Over half the firms with more than 100 employees favor having their management talk to student groups on future employment opportunities and requirements of their company. Only 10% of the firms under 100, 20% of those from 100-499, and 43% of organizations over 500 are willing to become involved in business education or career day programs.

Although only 15% of all firms are willing to provide summer employment for high school students, one-fourth of those with over 100 employees are willing to do so. The largest and smallest firms are least interested. The willingness to provide summer employment for college students increases from 21% in size 1 to 57% in size 4.

Only 10% of the firms expressed willingness to participate in work-study or cooperative programs. Most of these were major employers, however. Even so, before work-study or cooperative education can really become effective, a much greater percentage of the employers must become interested and willing to participate.

It is interesting to note that the percentage of employers who believe communications between their organization and local educators need to be improved increased markedly by size. This is the reverse of what we would expect.

Over one-fourth of the employers believe no communication is needed. These are not limited to the smaller firms, either.

Of those 189 firms that believe communications need to be improved, over half suggested that responsible school representatives should contact them. In most interviews, the respondent emphasized that the initiative and leadership should start with the school representative. The need for school representatives with some knowledge of business and industry organization and operation, and with authority to act, was often mentioned.

Several respondents in manufacturing firms expressed particular interest in having vocational counsellors and teachers of related subjects from the local schools visit their plants to get acquainted and become familiar with their current practices and needs. These individual contacts with a purpose would be welcomed by the employer and would be of considerable value to the counsellors and teachers. Several of the respondents of firms committed to working with the schools are quite desirous of giving all the help they can to improve the quality of teaching and counselling in the schools.

There is a strong indication of latent interest in and a sense of responsibility by employers for providing realistic learning experiences to students. This, unfortunately, is not shared by all. Judging from the results of our study, over half of the employers in Richmond furnishing information, if given leadership and encouragement by others in education and industry, would participate in well-planned and presented programs of cooperation in education.

The Alameda-Contra Costa County chapter of the Northern California Industry-Education Council has been attempting to set up working committees composed or representatives from education and industry in the counties to effect this communication and cooperation discussed here. It is a sound common sense approach that offers great potential for helping to achieve the objective of providing informed choice and adequate preparation for all of our youth for satisfactory employment. Currently, some success has been achieved in providing summer business and industrial experience for about 50 teachers and counsellors.

M. Employers' Philosophy on Training

It is a truism that learning goes on continuously in an organization and that the organization pays for this learning in one way or another. The learning may be gained in many ways ranging from trial and error experience on the job to carefully planned, conducted, and measured training on or away from the job. Trial and error learning may be the only way in a particular situation but it can be costly in wasted materials, facilities, and time. On the other hand, highly organized training can become an expensive overhead cost and exposure to organized training does not necessarily result in desired learning or a change in individual employee behavior. Returns on the cost of learning are difficult to estimate with confidence because of the many unknown, hidden and variable factors involved. Even so, there are well-managed, profitable firms in highly competitive industries, and in utilities, whose managers subscribe to the premise that planned and methodized training is more effective and economical than casual and unorganized training.

Most of the results of our study have been presented in the appendix and discussed except the attitude or philosophy of the firm as expressed by the respondent. A few structured questions were developed to learn these attitudes and their effect on the training activities of the firm.

We believe that, with a few exceptions, the respondent interviewed in each organization reflected the true philosophy or opinion about training of that organization, if they had any. About 85% of the respondents in Richmond were the top executive of that organization or its owner. The other respondents were of sufficient status or in a position to know the firm's attitude on matters asked about in the interview or questionnaire. When there was any doubt, the answers were usually cleared by someone in authority. We might find that if the same questions were asked again of the respondent, a few of them would be answered differently, but we are confident of the total reliability of the responses given. (Appendix A-36.)

The question, "Who in your firm is responsible for administering the training program?" was asked to evaluate the significance that the firm attached to training. Two training directors, located at their respective plants in Richmond and in the County reported spending their full time in administering and conducting the training activities. The rest of the training directors had other assigned duties or were located at corporate offices in San Francisco or Oakland. Twenty-one personnel directors in Richmond and four in the County administer the training programs for their organizations. The time spent by these personnel directors on administering training ranges up to 40% with most of them answering the question by the word "minimal." Of the firms interviewed reporting some kind of organized training, 55% of the programs were the responsibility of top management and 22% of first-line supervisors. The respondents were generally unable to estimate how much time was devoted to administering training activites. Training, like safety, seems to follow the adage that "what is everyone's responsibility becomes no one's responsibility."

The question, "How do you secure information from or about your employees regarding their interest and need for further education, training or retraining?" was asked in the interviews, but not on the questionnaire. The number answering that they used attitude surveys or questionnaires was rather surprising (39%), especially since 45% of the 20-99 size firms answered the question in this way. Fifty-nine of the respondents (28%) that were asked this question answered that it was up to their employees to seek pertinent education or training by their own efforts. As one respondent expressed this attitude, "You never motivate the individual who needs additional education when the company offers encouragement through such devices as tuition refunds, just the eager ones who would go ahead on their own anyway. It is more realistic to encourage the employee to improve himself through his pay check on the basis of his worth to the company." Another respondent, manager of a firm that believes in planned training, felt that he practically had to coerce his employees into attending classes that they knew would benefit them directly in qualifying for their present job and future advancement. These two extreme viewpoints seem to be the centers around which opinions cluster. Evidently education for adults needs to be made palatable as well as profitable. (Appendix A-35)

The question, "Would your firm (or organization) be interested in joint research on such universal problems as how to determine the need for training, what are or is the optimum training method for a given situation and objective, what are the ways of achieving and maintaining motivation and receptivity in learning, and how to evaluate training?" generated enthusiastic interest among those who could perceive the value of such research. There were 57 firms in Richmond and the county whose respondents expressed willingness to cooperate. Perhaps 30 of these would be suitable for supplying joint research projects. The respondents were training directors and others who recognized some of these problems and had keen interest in improving the firm's training efforts. Evidently there is real need for this basic research. It would involve having graduate students imaginatively tackle these problems "out on the job" with guidance and control by their professor and with direction from management representatives in the cooperating firms. Although the value of the experience of working on a real and challenging but not insurmountable problem to a graduate student and the contribution he could make to industrial education is apparent, implementation of such research programs might prove quite difficult in academe.

The query, "What are your conclusions about the real return on the company's resources that have been committed to training in your firm?" was asked of those respondents whose firms had been involved in organized training activities. The usual reply was, "We wouldn't do it if it didn't pay off," or "We couldn't continue to exist as a firm if we didn't train." Several, however, were candid in the appraisal of their firm's training efforts and gave reasons for failure or mediocre results. One reason mentioned most often was the lack of complete and clearly defined objectives. Someone in authority implements a training program without the proper study and planning required to determine the real need and the best way to do it. Unfortunately, sad experience in an initial but justified training effort often destroys any enthusiasm for, or acceptance of, future efforts. This is regretable because enough is known about learning that, if properly utilized, would prevent these disappointing failures from happening.

Another criticism of training in the firm often mentioned was the conflict or contradiction between actual practice and the basic premises emphasized in the training sessions. Supervisory and managerial training loses its effectiveness when the subordinate learns that he is to do what his superior exacts and not what he learns in his training sessions.

Employees are included in training sessions who have little interest or need for the experience. Their behind-the-scenes sabotaging can make ineffectual any training activity.

Dull and meaningless lectures are finally making college students openly rebellious. Not all dull lectures are confined to the colleges or universities. Too often the lecturer is carried away by the music of his own voice and becomes oblivious to his listeners' ennui. Three-fourths of the away-from-the-job training activities are reported as being taught b y the lecture-discussion method. There is some information or concepts that can best be presented by lecture, but it appears that this method is being over worked in the Richmond firms. (Appendix A-26.)

One of the most effective methods of teaching is the use of individual and small group study projects carefully selected and judiciously supervised. This method should be especially appropriate in business and industry for developing promising personnel, but only two firms reported using it. Real, challenging and worthwhile projects, such as feasibility studies, extensive methods and procedure studies, and projected effects of proposed policy changes come to mind.

Top management is, or should be, looking for new products to add to the line or new uses for present product lines and materials. Feasibility studies that require analyses of breadth and depth and clear and systematic thinking in interpreting and reporting the findings can usually be found in this connection. The recommendations need not be followed, but problems of this type provide motivation and generate interest. This can be one of the best of learning experiences for potential managers.

Imaginative innovation is needed in industrial training as well as in the public schools and the universities.

We used the answers to nearly all of the questions in our study as individual variables in the BC TRY cluster analysis. After several runs of redefining key variables, the variables clustered into these groups: (1) safety training, (2) number of employees in each occupation, (3) experience requirements, (4) planned on-the-job training, (5) education requirements, and (6) student attitudes, industry-school communication, and recommended courses.

The key variable in cluster (1) was safety training of journeymen. This means that as the formal training of journeymen increases or decreases, the safety training of the other occupational groups increases or decreases proportionately. In cluster (2) the conclusion is that as clerical personnel, which was the key variable, increases in numbers, the other groups increase in proportion. In cluster (3) as the experience requirements for salesmen increase or decrease so do the experience requirements of the other groups. In cluster (4) as the planned on-the-job training for first-line supervisors increases so does planned on-the-job training for the other occupations. In cluster (5) the education requirements for journeymen is the key variable. For some reason safety training for salesmen also appeared in this cluster. Cluster (6) contained ten variables from the student attitude, industry-school communications and recommended courses questions. The key variable was impudence and extremes in dress.

These six variable clusters were then correlated with all the employers participating in the Richmond study. Although the organizations clustered into homogeneous groups on certain of these six variables, or combinations of some of these, there was no discernible relevancy in size, type of industry, or any other characteristic we had used in our study, that could account for the particular ones to group together. Each company, although possessing homogeneity in some respects with others, seems to have its own unique substance and values. As we interviewed, respondents would often comment, "But we are a different kind of company." As students are unique individuals and communities are unique conglomerations, so are employing organizations unique.

XIX. CONCLUSIONS

Our inquiries were directed toward determining the nature and extent of training done in the Richmond firms and no effort was made to judge the quality or effectiveness of this training. We were interested in establishing whether the size of firm, the type of industry, technological changes, the local level of managerial control in formulating training policies, the respondent's position in the firm, the occupational distribution and/or the respondent's attitude toward the results of training had significant effect on the nature or extent of the various training activities of the firms, both individually and in toto. We found no discernible relevance between these factors and the nature and extent of training, as measured by the organization's use of planned on-the-job training, its tuition refund policies, number of courses, number of employee trainees, annual number of hours in away-from-the-job training, number and proportion of apprentices, and the orientation and formal safety training provided.

This lack of relevancy, what we learned in our interviews, and deduction, lead us to conclude that the nature and extent of training, or involvement in planned or organized training in an organization, is determined by whether there is an individual, or individuals, who believe in the value of planned training and have sufficient influence in the organization to bring it about.

It can stem from corporate officers because we found that those branches of firms that promoted and supported organized training as a national policy in nearly every instance were involved in planned training in their Richmond facilities. Apparent need may be the starter, but an individual with sufficient influence who believes in the value of planned training is prerequisite to establishing truly effective training in an organization.

Most of on-the-job training is casual and spontaneous and probably laden with hidden costs. Only about ten percent of the employers use planned job instruction in the operative and clerical occupations. The rest of the employers are neglecting a proven effective and inexpensive means of improving their organization's operations and climate. The schools, if work-study is to reach its full potential, must become interested also in the amount and quality of on-the-job instruction given.

Employee selected away-from-the-job training does not reach enough of those employees who need and would benefit from adult education. The junior colleges, adult education, and University Extension should find ways to do a more effective job of selling and recruiting, but the employer can and must do a better job of notification and encouragement if optimum participation is to be achieved.

Employer provided away-from-the-job training is limited to a few firms. Some of the larger firms provide their own, but they also have outside organizations present this training. The consensus of the respondents of these firms is that time and resources spent in away-from-the-job training activities have been well invested. The other employers in Richmond are not taking advantage of the services that can be provided them by the schools, associations, agencies and other organizations, public and private, in the area. We discovered an unawareness that these training services, which employers could afford, were available.

Employers often need guidance and assurance in their initial training planning. The need for basic research into such questions as how to determine true training needs, how to best train, how to generate motivation and receptivity, and how to measure the results of training efforts was especially expressed by respondents of firms that have significant training programs. When firms with considerable experience in training recognize that much of what they are doing may be based on unproven or wrong assumptions, we can begin to appreciate why other employers are hesitant to become involved in organized training programs. The universities should provide leadership, personnel and guidance in such research.

The deficiencies of too many graduates entering employment most often mentioned by respondents were: (a) the lack of willingness or desire to do their best on the task assigned, (b) the lack of mastery of the basic communicative and arithmetic skills, and (c) ignorance of the world of work. The first two are a responsibility of the schools, but eh last one is a joint responsibility of the schools and the employers. Employers instead of complaining must recognize, accept, and dis-

charge their responsibility in providing realistic vocational guidance

charge their responsibility in providing realistic vocational guidance and work experience for the school youth. This task cannot be saddled onto a few. All the employers in the community must participate actively, sincerely and well. It is a long-range but sure investment that all can share in.

Over half the employers in Richmond believe that communication and cooperation between educators and employers in solving problems of mutual interest need to be improved. They expect the educators to take the initiative in bringing this about. Talking about the problem is not enough--action must follow.

School districts in other industrial centers have found capable coordinators indispensable in developing and maintaining close working relations with employers in the community. The need for cognitive and accredited representatives of the high schools and colleges who would abet discourse and implement cooperative effort was mentioned by over one-fourth of the respondents. These were from the larger firms that provide most of the employment.

The training of apprentices in Richmond, with a few exceptions, is inadequate. The number of apprentices in construction, installation and maintenance is far too small to meet the future need for qualified craftsmen. Good leadership is needed for a cooperative effort to innovate, strengthen and expand apprenticeship training. The schools should provide this leadership.

This study attempted to get a clearer concept of the total training effort, or lack of effort, by employers in a representative community and to get some measure of the willingness to cooperate with schools in providing realistic guidance and pertinent work experience for students. We believe the findings are typical of industrial communities. We hope this report will make those employers who learn of the results more conscious of their own training oversights and cognizant of their responsibility for helping our school youth. Educators who read it should get an idea of the nature and extent of training by employers and an awareness of the need for closer cooperation.

X. SUMMARY

The purpose of the study was to develop general knowledge of the nature and extent of education or training done by employers in a representative industrial community. This knowledge could be useful to educators and employers in their initial planning for solving the problems of the adequate preparation of all of our youth for satisfactory employment.

The City of Richmond, California, population about 80,000, was the representative community selected for our study. Although an attempt was made to include all employers of one or more in the study, only 359 participated. These, however, provide over 95% of the employment.

Structured interviews were used in obtaining the data from 210 employers with ten or more employees, and questionnaires were sent to the rest. Nearly twelve percent were returned.

We found the employment of approximately 25,000 to be distributed in the following occupation categories: operatives - 42%, journeymen - 16%, clerical - 12%, sales - 5%, technicians - 4%, professional - 13%, and supervisory-managerial - 8%. Operatives include process control operators. Professional includes public school teachers.

Only 16% of all companies reported using planned on-the-job training. These provided 37% of the employment.

About half of the firms have no minimum educational requirements for operatives and journeymen, with one-third requiring high school graduation. Three-fourths of the firms require high school graduation for clerical.

Over half the firms will hire into the operative occupation with no previous experience, but three-fourths of the employers require previous experience for the journeyman so that further training will be unnecessary.

About one-fourth of the firms provide formal safety training for at least some of their employees, whereas thirty percent of the employers reported accident hazards inherent in the work but no organized safety training.

Nearly 40% of the firms have some form of induction or orientation training.

Journeymen (trade craftsmen) account for 17% of the employment, but the number of apprentices is one percent or a ratio of one apprentice to fifteen journeymen. One firm has over half the apprentices with a ratio of one apprentice to 5.4 journeymen.

We were unable to measure the extent to which employees participate in employee selected away-from-the-job training, because employers quite often had no knowledge of this. One-third of the employers encourage this participation by providing tuition refunds. Most kept no ready record of the annual refund amount.

About one-fourth of the employers provide away-from-the-job training activities. Ten organizations account for 83% of the employee hours given over to these activities. The average annual number of hours of training per employee in Richmond was eight. This ranged from 0 to 95. Most of the training took place on company premises, on company time, and by company instructors. Fifty-two percent of the courses were occupation oriented and 28% were supervisory-managerial.

About 85% of the respondents representing approximately 90% of the employment had some criticism of the job applicant's school preparation. The ones mentioned most often were unwillingness to do their best, inadequate mastery of communicative and arithmetic skills, and unrealistic concept of the world of work.

Nearly 60% of the employers believe that communications between employers and educators need to be improved. About 55% suggested that responsible school representatives or coordinators were needed and that the schools should initiate this discourse. Fifty percent mentioned business-industry-education councils or committees be established. About 40% suggested that teachers and counsellors learn first hand about business and industry.

About 70% of the respondents expressed willingness to help students gain a meaningful understanding of occupations and working for a living. Only ten percent mentioned willingness to participate in work-study or cooperative education programs.

Operatives have usually been trained almost exclusively on the job, but the related job knowledge demands placed on operators of modern process control consoles has required extensive away-from-the-job training and an understanding of the process technology and scientific principles. Educators need to give attention to the preparation of this new breed of operators.

The practice of "pirating" graduating apprentices very nearly dried up the principal sources of qualified journeymen in Richmond. The burden of apprenticeship training must be shared by more employers in the community. The schools should furnish the leadership for expanding and strengthening apprenticeship training.

Planned on-the-job training can provide one of the most effective ways of improving the operations of an organization and probably one of the least costly. Employers should require a more intense use of the proven tenets of job instructor training (J.I.T.) in their organizations.

Educators should have a keen interest in the quality of on-the-job instruction as work-study and cooperative education become more widely adopted.

We were unable to make an estimate of the total cost of training because the information was not available.

The extent and nature of training in an organization is dependent on whether there is an individual or group of individuals in that organization who believe in the value of planned training and have the influence to put it into effect.

Educators are expected by employers to take the leadership in developing better communications and more cooperation.

SIZE GROUP	# FIRMS IN SIZE GROUP REPORTING THIS OCCUPATION		OPERATIVES	JOURNEYMEN	CLERICAL	SALES	TECHNICAL	PROFESSIONAL	SUPERVISORS	MANAGERIAL	TOTAL # EMPS. REPORTED BY OCCUPATION
		Total in each Occupation	9889	3810	2759	1160	1036	3219	877	1278	24,028*
		Percent of Total Emplt.	42%	16%	12%	5%	4%	13%	3%	5%	100%
1	209	1-19 Employees									
		Number of Employees	466	202	303	240	39	75	13	175	1513
		Percent of Size 1 Total	30%	13%	20%	16%	3%	5%	1%	12%	100%
		Percent of Occupation Total	5%	5%	11%	21%	4%	2%	2%	14%	6%
2	95	20-99 Employees									
		Number of Employees	1566	652	620	299	142	218	142	398	4037
		Percent of Size 2 Total	38%	16%	15%	8%	4%	5%	4%	10%	100%
		Percent of Occupation Total	16%	17%	23%	26%	14%	7%	18%	31%	17%
3	44	100-499 Employees									
		Number of Employees	4801	1560	1194	621	359	614	371	426	9946
		Percent of Size 3 Total	48%	16%	12%	6%	4%	6%	4%	4%	100%
		Percent of Occupation Total	48%	41%	43%	53%	35%	19%	48%	34%	41%
4	6	Over 500 Employees									
		Number of Employees	3056	1396	642	---	496	2312+	351	279	8532
		Percent of Size 4 Total	36%	16%	8%	---	6%	27%	4%	3%	100%
		Percent of Occupation Total	31%	37%	23%	---	48%	72%	32%	22%	36%
	354*										

* Five firms (864 employees) reported only totals with no occupational breakdown.

+ There are 1744 teachers in this group.

DISTRIBUTION OF OCCUPATION BY SIZE OF ORGANIZATION IN RICHMOND

DISTRIBUTION OF OCCUPATIONS BY TYPE OF INDUSTRY*

INDUSTRY, S.I.C. CODES AND NO. OF FIRMS	OPERAT. 9889 42%	JOURNEY. 3810 16%	CLERICAL 2759 12%	SALES 1160 5%	TECH. 1036 4%	PROF. 3219 13%	SUPERV. 877 3%	MANAGE. 1278 5%	TOTALS 24,028 100%
Construction (14, 15, 16, 17), 29									
Number Employees in Occupation	284	561	42	6	2	23	73	75	1036
Percent of Total in Industry	27.0%	54.0%	4.0%	.6%	.2%	2.0%	4.0%	7.0%	100%
Percent of Total in Occupation	3.0%	15.0%	2.0%	1.0%	.2%	1.0%	6.0%	6.0%	4.2%
Service Stations (18, 19), 12									
Number Employees in Occupation	33	25	11	19	---	---	2	8	98
Percent of Total in Industry	34.0%	26.0%	11.0%	19.0%	---	---	2.0%	8.0%	100%
Percent of Total in Occupation	.3%	.7%	.4%	2.0%	---	---	.3%	.6%	.4%
Food, Lumber, Paper (20, 24, 25, 26), 16									
Number Employees in Occupation	842	76	68	21	16	14	28	59	1124
Percent of Total in Industry	75.0%	7.0%	6.0%	2.0%	1.0%	1.0%	2.0%	5.0%	100%
Percent of Total in Occupation	9.0%	2.0%	2.0%	2.0%	2.0%	.4%	4.0%	5.0%	4.7%
Printing and Publishing (27), 6									
Number Employees in Occupation	59	42	23	27	8	---	7	9	175
Percent of Total in Industry	34.0%	24.0%	13.0%	15.0%	5.0%	---	4.0%	5.0%	100%
Percent of Total in Occupation	1.0%	1.0%	1.0%	2.0%	1.0%	---	1.0%	1.0%	.7%
Chemicals & Petroleum (28, 29), 25									
Number Employees in Occupation	1911	848	433	89	584	689	126	221	4901
Percent of Total in Industry	39.0%	17.0%	9.0%	2.0%	12.0%	14.0%	3.0%	4.0%	100%
Percent of Total in Occupation	19.0%	22.0%	16.0%	7.0%	56.0%	21.0%	16.0%	17.0%	20.4%

INDUSTRY, S.I.C. CODES AND NO. OF FIRMS	OPERAT.	JOURNEY.	CLERICAL	SALES	TECH.	PROF.	SUPERV.	MANAGE.	TOTALS
Primary Metal (33), 4									
Number Employees in Occupation	656	79	49	3	42	6	47	12	894
Percent of Total in Industry	73.0%	9.0%	5.0%	.3%	5.0%	.7%	5.0%	1.0%	100%
Percent of Total in Occupation	7.0%	2.0%	2.0%	.3%	4.0%	.2%	6.0%	.1%	3.7%
Metal Fabrication (34), 19									
Number Employees in Occupation	1578	996	245	64	38	37	92	75	3125
Percent of Total in Industry	50.0%	32.0%	8.0%	2.0%	1.0%	1.0%	3.0%	2.0%	100%
Percent of Total in Occupation	16.0%	26.0%	9.0%	6.0%	4.0%	1.0%	12.0%	6.0%	13.0%
Scientific Instruments Mfg. (38), 8									
Number Employees in Occupation	384	88	123	14	123	155	36	67	990
Percent of Total in Industry	39.0%	9.0%	12.0%	1.0%	12.0%	16.0%	4.0%	7.0%	100%
Percent of Total in Occupation	4.0%	2.0%	4.0%	1.0%	12.0%	5.0%	5.0%	5.0%	4.1%
Miscellaneous Mfg. (39), 13									
Number Employees in Occupation	188	84	38	8	9	9	18	32	386
Percent of Total in Industry	49.0%	22.0%	10.0%	2.0%	2.0%	2.0%	5.0%	8.0%	100%
Percent of Total in Occupation	2.0%	2.0%	1.0%	1.0%	1.0%	.3%	2.0%	3.0%	1.6%
Transportation (40, 41, 42, 44), 15									
Number Employees in Occupation	569	78	104	7	4	1	10	44	817
Percent of Total in Industry	70.0%	10.0%	13.0%	1.0%	.5%	.1%	1.0%	5.0%	100%
Percent of Total in Occupation	6.0%	2.0%	4.0%	1.0%	.4%	0%	1.0%	3.0%	3.4%
Utilities (48, 49), 5									
Number Employees in Occupation	253	307	135	7	15	11	58	30	816
Percent of Total in Industry	31.0%	38.0%	17.0%	1.0%	2.0%	1.0%	7.0%	4.0%	100%
Percent of Total in Occupation	3.0%	8.0%	5.0%	.6%	1.0%	.3%	7.0%	2.0%	3.4%

INDUSTRY, S.I.C. CODES AND NO. OF FIRMS	OPERAT.	JOURNEY.	CLERICAL	SALES	TECH.	PROF.	SUPERV.	MANAGE.	TOTALS
Wholesale (50), 31									
Number Employees in Occupation	1458	201	257	108	8	29	55	168	2284
Percent of Total in Industry	64.0%	9.0%	11.0%	5.0%	.4%	1.0%	2.0%	7.0%	100%
Percent of Total in Occupation	15.0%	5.0%	9.0%	9.0%	1.0%	1.0%	7.0%	13.0%	9.5%
Food Retail (54), 7									
Number Employees in Occupation	76	14	3	10	---	---	---	4	107
Percent of Total in Industry	71.0%	13.0%	3.0%	9.0%	---	---	---	4.0%	100%
Percent of Total in Occupation	1.0%	.3%	.1%	1.0%	---	---	---	.3%	.4%
Automobile Dealers (55), 11									
Number Employees in Occupation	40	143	41	95	---	---	2	66	387
Percent of Total in Industry	10.0%	37.0%	11.0%	25.0%	---	---	.5%	17.0%	100%
Percent of Total in Occupation	.4%	4.0%	1.0%	8.0%	---	---	.3%	5.0%	1.6%
Retail Trade (53, 56, 57, 59), 40									
Number Employees in Occupation	92	21	86	600	23	7	48	52	929
Percent of Total in Industry	10.0%	2.0%	9.0%	65.0%	2.0%	1.0%	5.0%	6.0%	100%
Percent of Total in Occupation	1.0%	1.0%	3.0%	62.0%	2.0%	.2%	6.0%	4.0%	3.9%
Eating and Drinking Places (58), 10									
Number Employees in Occupation	90	12	1	6	---	---	---	12	121
Percent of Total in Industry	74.0%	10.0%	1.0%	5.0%	---	---	---	10.0%	100%
Percent of Total in Occupation	1.0%	.3%	0%	.5%	---	---	---	1.0%	.5%
Banking (60), 9									
Number Employees in Occupation	---	---	325	---	23	---	9	66	423
Percent of Total in Industry	---	---	77.0%	---	5.0%	---	2.0%	16.0%	100%
Percent of Total in Occupation	---	---	12.0%	---	2.0%	---	1.0%	5.0%	1.8%

INDUSTRY, S.I.C. CODES AND NO. OF FIRMS	OPERAT.	JOURNEY.	CLERICAL	SALES	TECH.	PROF.	SUPERV.	MANAGE.	TOTALS
Credit Insurance, Real Estate (61, 64, 65), 24									
Number Employees in Occupation	3	---	34	63	---	---	---	12	112
Percent of Total in Industry	3.0%	---	30.0%	56.0%	---	---	---	11.0%	100%
Percent of Total in Occupation	0%	---	1.0%	5.0%	---	---	---	1.0%	.5%
Services (70, 72, 73, 76), 25									
Number Employees in Occupation	97	18	47	2	17	4	1	13	199
Percent of Total in Industry	49.0%	9.0%	24.0%	1.0%	9.0%	2.0%	.5%	7.0%	100%
Percent of Total in Occupation	1.0%	.5%	2.0%	.2%	2.0%	.1%	.1%	1.0%	.8%
Medical and Health (80), 23									
Number Employees in Occupation	154	29	79	1	104	142	22	29	560
Percent of Total in Industry	28.0%	5.0%	14.0%	.2%	19.0%	25.0%	4.0%	5.0%	100%
Percent of Total in Occupation	2.0%	1.0%	3.0%	0%	10.0%	4.0%	3.0%	2.0%	2.3%
Legal (81), 4									
Number Employees in Occupation	---	---	14	---	1	4	1	---	20
Percent of Total in Industry	---	---	70.0%	---	5.0%	20.0%	5.0%	---	100%
Percent of Total in Occupation	---	---	.5%	---	.1%	.1%	.1%	---	---
Schools (82), 2									
Number of Employees in Occupation	395	52	225	---	6	1757	72	110	2617
Percent of Total in Industry	15.0%	2.0%	9.0%	---	.2%	67.0%	3.0%	4.0%	100%
Percent of Total in Occupation	4.0%	1.0%	8.0%	---	1.0%	55.0%	9.0%	9.0%	10.8%
Member Organizations (86), 4									
Number Employees in Occupation	---	---	20	10	---	6	---	8	44
Percent of Total in Industry	---	---	45.0%	23.0%	---	14.0%	---	18.0%	100%
Percent of Total in Occupation	---	---	1.0%	1.0%	---	.2%	---	1.0%	[illegible]

INDUSTRY, S.I.C. CODES AND NO. OF FIRMS	OPERAT.	JOURNEY.	CLERICAL	SALES	TECH.	PROF.	SUPERV.	MANAGE.	TOTALS
Federal Government (91), 5									
Number Employees in Occupation	218	25	135	---	---	11	25	15	429
Percent of Total in Industry	51.0%	6.0%	31.0%	---	---	3.0%	6.0%	3.0%	100%
Percent of Total in Occupation	2.0%	1.0%	5.0%	---	---	.3%	3.0%	1.0%	1.8%
State Government (92), 5									
Number Employees in Occupation	39	54	25	---	6	47	11	7	189
Percent of Total in Industry	21.0%	29.0%	13.0%	---	3.0%	25.0%	6.0%	4.0%	100%
Percent of Total in Occupation	.4%	1.0%	1.0%	---	.6%	1.0%	1.0%	.5%	.8%
Local Government (93), 7									
Number Employees in Occupation	462	57	196	---	7	267	64	84	1137
Percent of Total in Industry	41.0%	5.0%	17.0%	---	.6%	23.0%	6.0%	7.0%	100%
Percent of Total in Occupation	5.0%	1.0%	7.0%	---	.6%	8.0%	8.0%	7.0%	4.7%

* Five firms (representing 864 employees) reported only totals with no occupational breakdown and therefore do not appear in this distribution.

FIRM CODE NO.	SIC	TYPE OF INDUSTRY	OPERATIVES	JOURNEYMEN	CLERICAL	SALES	TECHNICAL	PROFESSIONAL	SUPERVISORS	MANAGERIAL	TOTALS
		100 to 500 Employees:									
1	73	Research and Development	24	26	50	3	15	107	9	6	240
2	33	Primary Metal	276	54	26	---	14	14	29	8	421
4	34	Fabricated Metal Products	136	66	14	---	1	5	13	2	237
6	28	Chemicals	132	109	45	---	31	64	44	15	440
7	26	Paper and Allied Products	225	60	20	---	12	16	50	14	397
8	28	Chemicals	102	62	15	---	9	11	26	11	236
9	32	Building Products	215	35	32	---	---	4	12	15	313
10	32	Building Products	92	34	6	3	12	7	10	6	170
		Over 500 Employees:									
3	20	Food	1150	125	40	---	20	30	90	30	1485
5	28	Chemicals	200	180	80	---	80	100	40	20	700
12	38	Control Instruments	173	73	65	4	105	99	21	17	557
13	29	Petroleum	338	160	73	---	70	116	139	40	936
15	29	Petroleum	288	106	30	---	5	43	44	34	550
16	33	Primary Metal	1855	409	583	---	32	113	223	27	3242
18	26	Paper and Allied Products	673	74	64	12	4	22	50	12	911

DISTRIBUTION OF OCCUPATIONS BY FIRM CODES
IN CONTRA COSTA COUNTY OUTSIDE OF RICHMOND

(This data not included in Richmond totals)

WHAT ARE YOUR USUAL MINIMUM EDUCATIONAL REQUIREMENTS OF APPLICANTS FOR EACH GROUP?	OPERATIVES (9889)*	TRADE CRAFTS (3810)	CLERICAL (2759)	SALES (1160)	TECHNICIANS (1036)	PROFESSIONAL (3219)	SUPERVISORS (777)	MANAGERIAL (1278)
None	52%	47%	14%	15%	3%	0%	29%	14%
None but must pass screening test	14	13	7	15	4	1	5	4
High school graduate	34	36	72	38	16	2	38	27
Two year college or technical institute	0	3	7	11	71	5	16	8
Four year college degree	0	0	0	10	5	20	8	24
Professional or technical degree	0	1	0	10	1	71	3	23
TOTAL NUMBER OF RESPONDENTS FOR EACH OCCUPATION	100% (231)	100% (169)	100% (263)	100% (137)	100% (76)	100% (98)	100% (116)	100% (198)

* Total number of employees in occupational group

WHAT ARE YOUR USUAL MINIMUM EXPERIENCE REQUIREMENTS OF APPLICANTS FOR EACH GROUP?	OPERATIVES (9869)*	TRADE CRAFTS (3810)	CLERICAL (2759)	SALES (1160)	TECHNICIANS (1036)	PROFESSIONAL (3219)	SUPERVISORS (777)	MANAGERIAL (1278)
None	53%	6%	34%	27%	15%	33%	1%	3%
Previous work experience of any kind	16	2	8	4	1	2	3	2
Previous experience in similar work but with significant additional training expected	17	14	38	42	45	12	26	10
Sufficient previous experience in similar work so training will be unnecessary or inconsequential	13	74	17	20	29	23	57	39
Established reputation of competence	0	4	2	7	5	30	13	46
TOTAL NUMBER OF RESPONDENTS FOR EACH OCCUPATION	100% (227)	100% (166)	100% (239)	100% (135)	100% (76)	100% (97)	100% (113)	100% (196)

* Total number of employees in occupational group

TO WHAT EXTENT DO YOU PREPARE FOR ON-THE-JOB TRAINING IN THE VARIOUS OCCUPATIONAL GROUPS?	OPERATIVES* (9089)	TRADE CRAFTS (3810)	CLERICAL (2759)	SALES (1160)	TECHNICIANS (1036)	PROFESSIONAL (3219)	SUPERVISORS (777)	MANAGERIAL (1278)
Each employee develops his own methods of doing the work	0%	7%	2%	16%	12%	51%	11%	60%
Methods of doing the work have been established by precedent but have not been standardized	82	76	75	63	44	27	67	25
Job analyses are made to determine what tasks constitute the job, how these tasks are to be performed, what related knowledge and skills are required to perform these tasks as specified, and how these can be most effectively learned	18	17	23	20	44	23	22	15
TOTAL NUMBER OF RESPONDENTS FOR EACH OCCUPATION	100% (173)	100% (130)	100% (185)	100% (73)	100% (57)	100% (75)	100% (112)	100% (186)

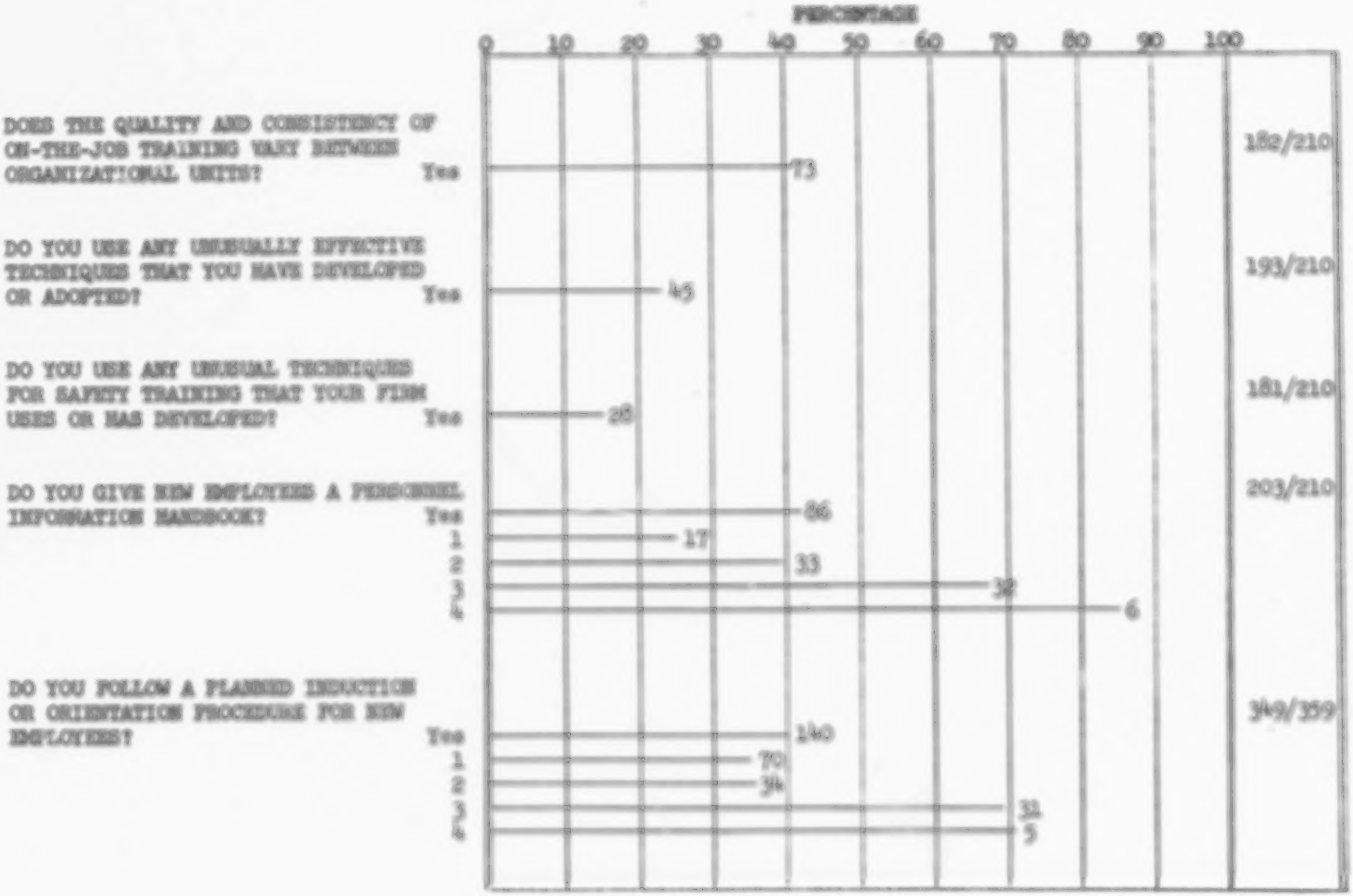
* Total number of employees in occupational group

WHICH OF THESE STATEMENTS BEST DESCRIBES YOUR FIRM'S ON-THE-JOB TRAINING FOR EACH GROUP?	OPERATIVES (9889)*	TRADE CRAFTS (3810)	CLERICAL (2759)	SALES (1160)	TECHNICIANS (1036)	PROFESSIONAL (3219)	SUPERVISORS (777)	MANAGERIAL (1278)
Jobs are so simple they can be learned with a minimum of direction, no instruction necessary	8%	0%	0%	0%	0%	0%	0%	0%
The new employee, to learn the job, is placed with an experienced employee or supervisor; instruction is spontaneous or given when asked for	71	13	76	46	27	10	5	3
The new employee, because of required previous experience, union assignment, or technical training, is expected to do the job with minimum direction	9	82	15	25	51	81	84	88
The new employee learns the job under carefully planned instruction and mastery measurement made by his supervisor or job trainer	11	5	9	29	23	9	11	9
TOTAL NUMBER OF RESPONDENTS FOR EACH OCCUPATION	100% (228)	100% (165)	100% (250)	100% (126)	100% (75)	100% (91)	100% (115)	100% (196)

* Total number of employees in occupational group

HOW IS SAFETY TRAINING HANDLED IN YOUR FIRM AND WHO IS INCLUDED?	OPERATIVES (9089)*	TRADE CRAFTS (3810)	CLERICAL (2759)	SALES (1160)	TECHNICIANS (1036)	PROFESSIONAL (3219)	SUPERVISORS (777)	MANAGERIAL (1278)
No job-connected accident hazards or health problems exist, safety training is deemed unnecessary	17%	14%	82%	76%	25%	40%	7%	41%
Hazards exist but no formal training program has been established	45	36	6	15	22	16	30	21
Formal group training is employed using safety posters, assignments to safety committees, films, safety booklets, contests, and/or safety meetings	38	50	12	9	53	44	63	38
TOTAL NUMBER OF RESPONDENTS FOR EACH OCCUPATION	100% (225)	100% (163)	100% (244)	100% (131)	100% (68)	100% (89)	100% (110)	100% (198)

* Total number of employees in occupational group


PERCENTAGE
0
10
20
30
40
50
60
70
80
90
100
DOES THE QUALITY AND CONSISTENCY OF ON-THE-JOB TRAINING VARY BETWEEN ORGANIZATIONAL UNITS?
Yes
73
182/210
DO YOU USE ANY UNUSUALLY EFFECTIVE TECHNIQUES THAT YOU HAVE DEVELOPED OR ADOPTED?
Yes
45
193/210
DO YOU USE ANY UNUSUAL TECHNIQUES FOR SAFETY TRAINING THAT YOUR FIRM USES OR HAS DEVELOPED?
Yes
28
181/210
DO YOU GIVE NEW EMPLOYEES A PERSONNEL INFORMATION HANDBOOK?
Yes
1
2
3
4
86
17
33
32
6
203/210
DO YOU FOLLOW A PLANNED INDUCTION OR ORIENTATION PROCEDURE FOR NEW EMPLOYEES?
Yes
1
2
3
4
140
70
34
31
5
349/359

DO YOU USE ANY UNUSUALLY EFFECTIVE TECHNIQUES FOR INDUCTION OR ORIENTATION TRAINING THAT YOU HAVE DEVELOPED OR ADOPTED? Yes

DO YOU HAVE AN APPRENTICESHIP PROGRAM THAT REQUIRES RELATED CLASS WORK? Yes

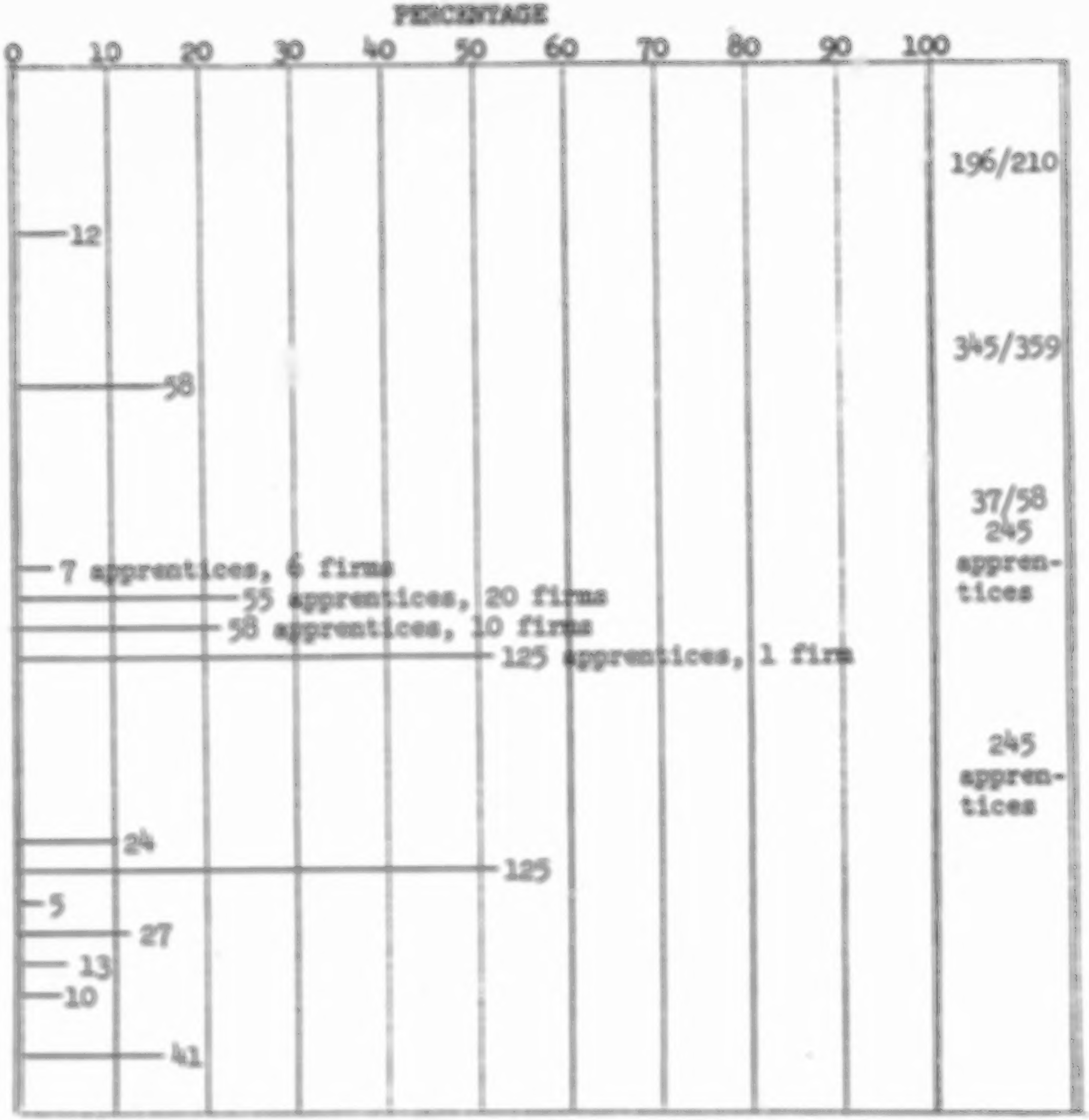
WHAT IS THE PRESENT PROPORTION OF APPRENTICES TO JOURNEYMEN AND WHAT IS THE DISTRIBUTION OF APPRENTICES BY SIZE OF FIRM?

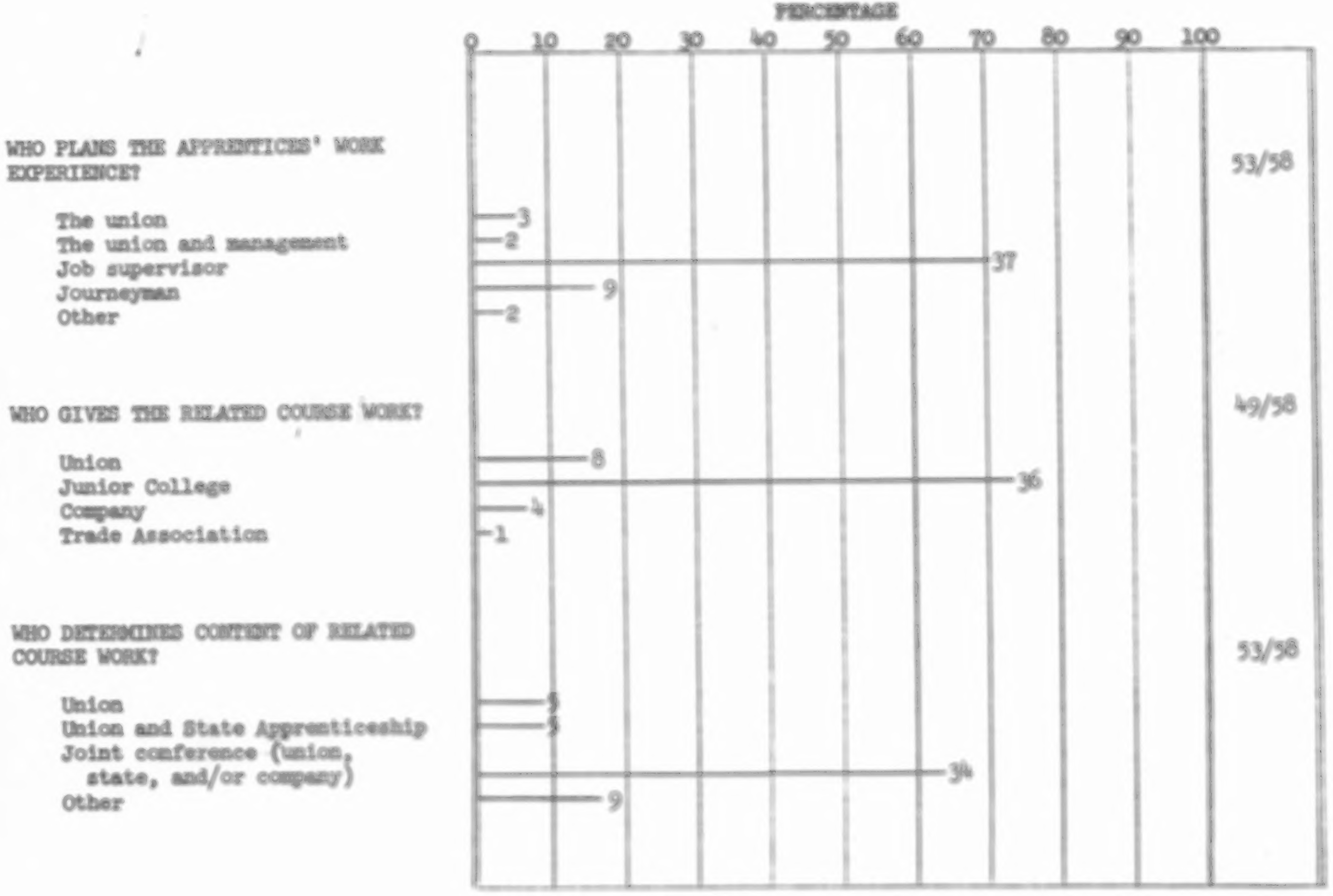
Distribution - 245 apprentices to 3810 journeymen, or 1:15

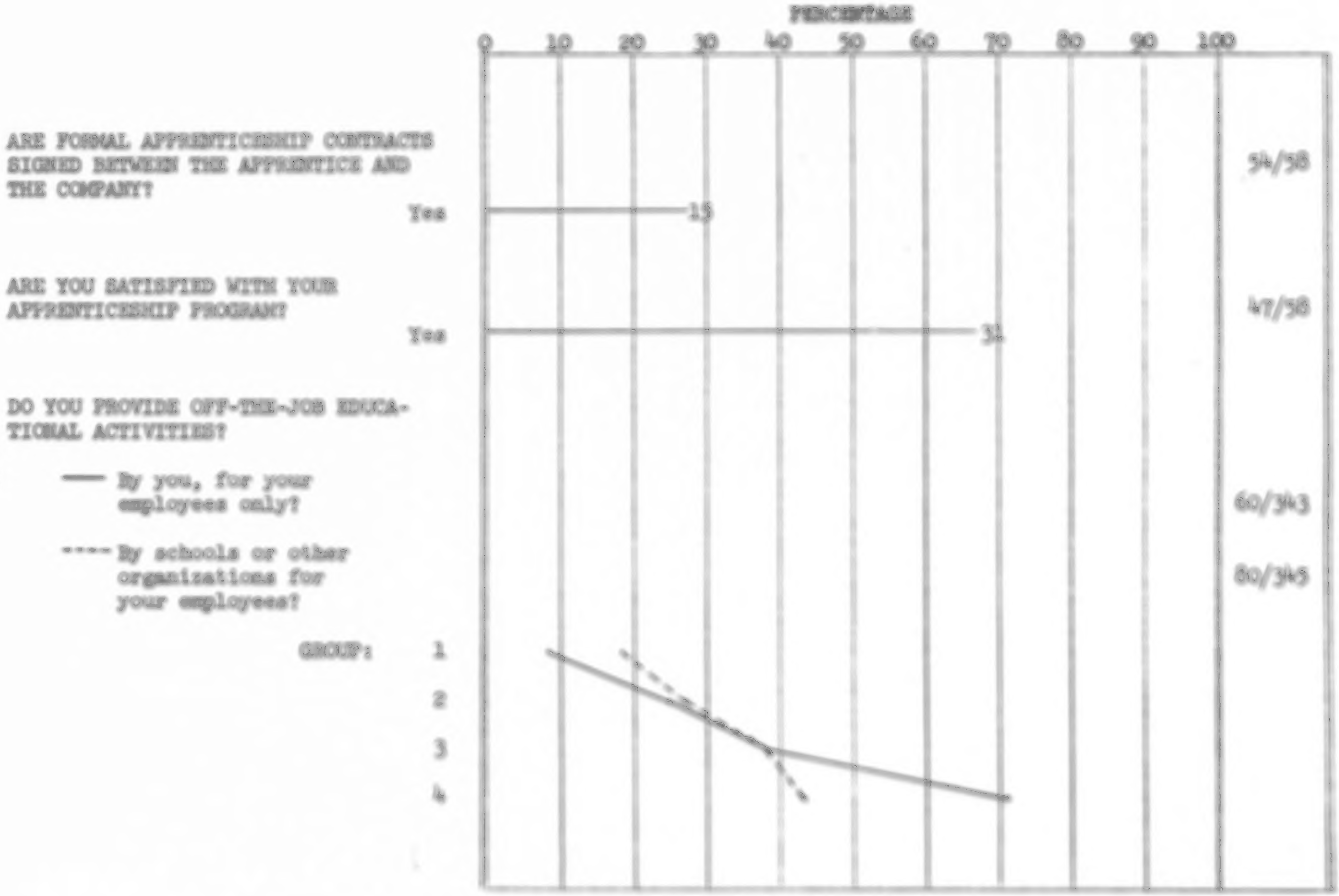
1
2
3
4

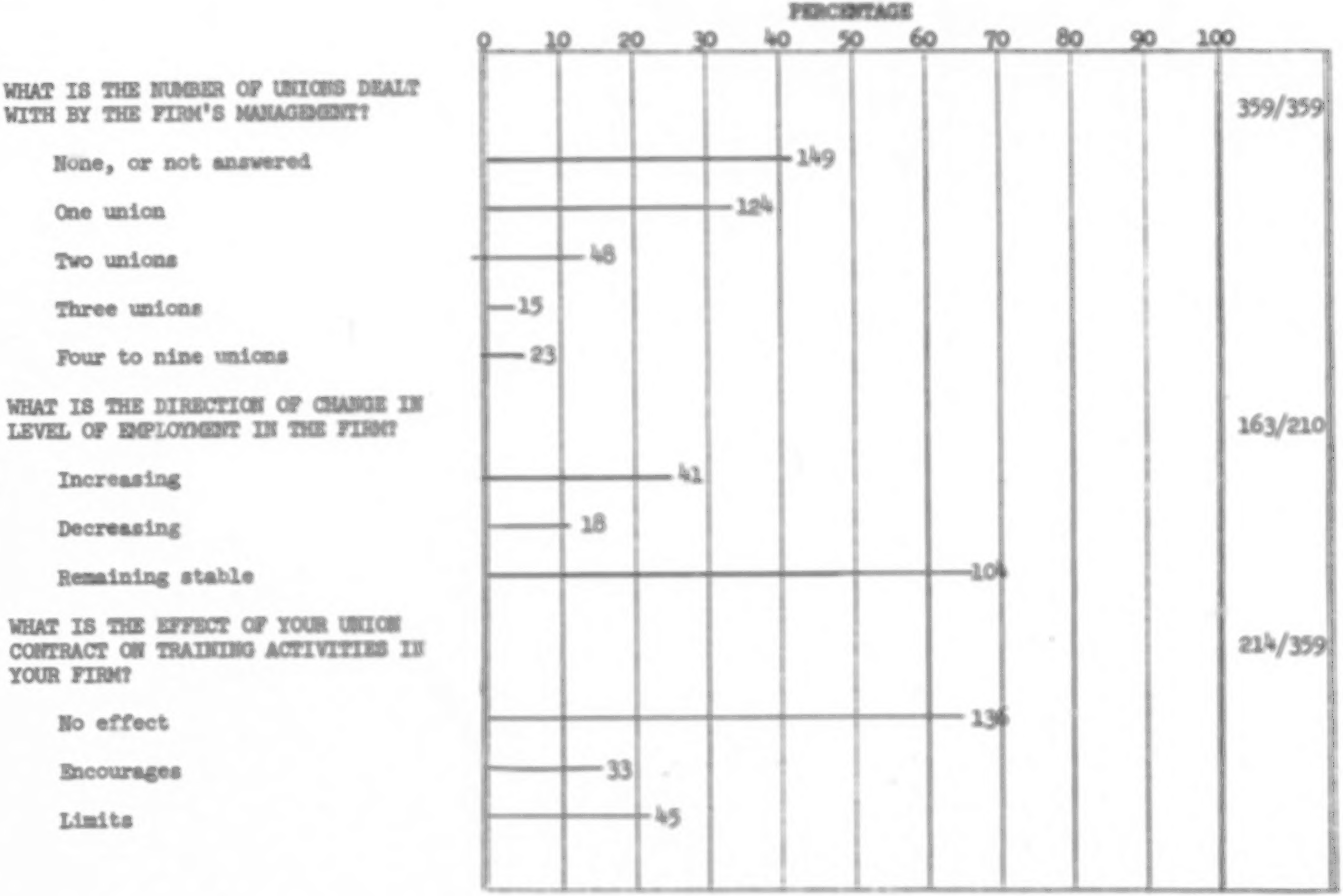
IN WHAT INDUSTRIES ARE APPRENTICES CONCENTRATED?

Construction (9 firms)
Petroleum Refinery (1 firm)
Chemical (1 firm)
Gas & Electric Utility (1 firm)
Auto Dealers (5 firms)
Misc. Industries (2 firms)
All other industries with fewer than 5 apprentices




PERCENTAGE
0
10
20
30
40
50
60
70
80
90
100
WHO PLANS THE APPRENTICES' WORK EXPERIENCE?
The union
The union and management
Job supervisor
Journeyman
Other
3
2
37
9
2
53/58
WHO GIVES THE RELATED COURSE WORK?
Union
Junior College
Company
Trade Association
8
36
4
1
49/58
WHO DETERMINES CONTENT OF RELATED COURSE WORK?
Union
Union and State Apprenticeship
Joint conference (union, state, and/or company)
Other
5
5
34
9
53/58


PERCENTAGE
0
10
20
30
40
50
60
70
80
90
100
ARE FORMAL APPRENTICESHIP CONTRACTS SIGNED BETWEEN THE APPRENTICE AND THE COMPANY?
Yes
15
54/58
ARE YOU SATISFIED WITH YOUR APPRENTICESHIP PROGRAM?
Yes
31
47/58
DO YOU PROVIDE OFF-THE-JOB EDUCATIONAL ACTIVITIES?
— By you, for your employees only?
60/343
---- By schools or other organizations for your employees?
80/345
GROUP:
1
2
3
4


PERCENTAGE
0
10
20
30
40
50
60
70
80
90
100
WHAT IS THE NUMBER OF UNIONS DEALT WITH BY THE FIRM'S MANAGEMENT?
359/359
None, or not answered
149
One union
124
Two unions
48
Three unions
15
Four to nine unions
23
WHAT IS THE DIRECTION OF CHANGE IN LEVEL OF EMPLOYMENT IN THE FIRM?
163/210
Increasing
41
Decreasing
18
Remaining stable
104
WHAT IS THE EFFECT OF YOUR UNION CONTRACT ON TRAINING ACTIVITIES IN YOUR FIRM?
214/359
No effect
136
Encourages
33
Limits
45

HOW ARE YOU, AS AN EMPLOYER, KEPT INFORMED OF COURSE ANNOUNCEMENTS FROM THE LOCAL SCHOOLS?

We receive announcements from:

Adult evening schools

Community colleges

University extension

Trade associations

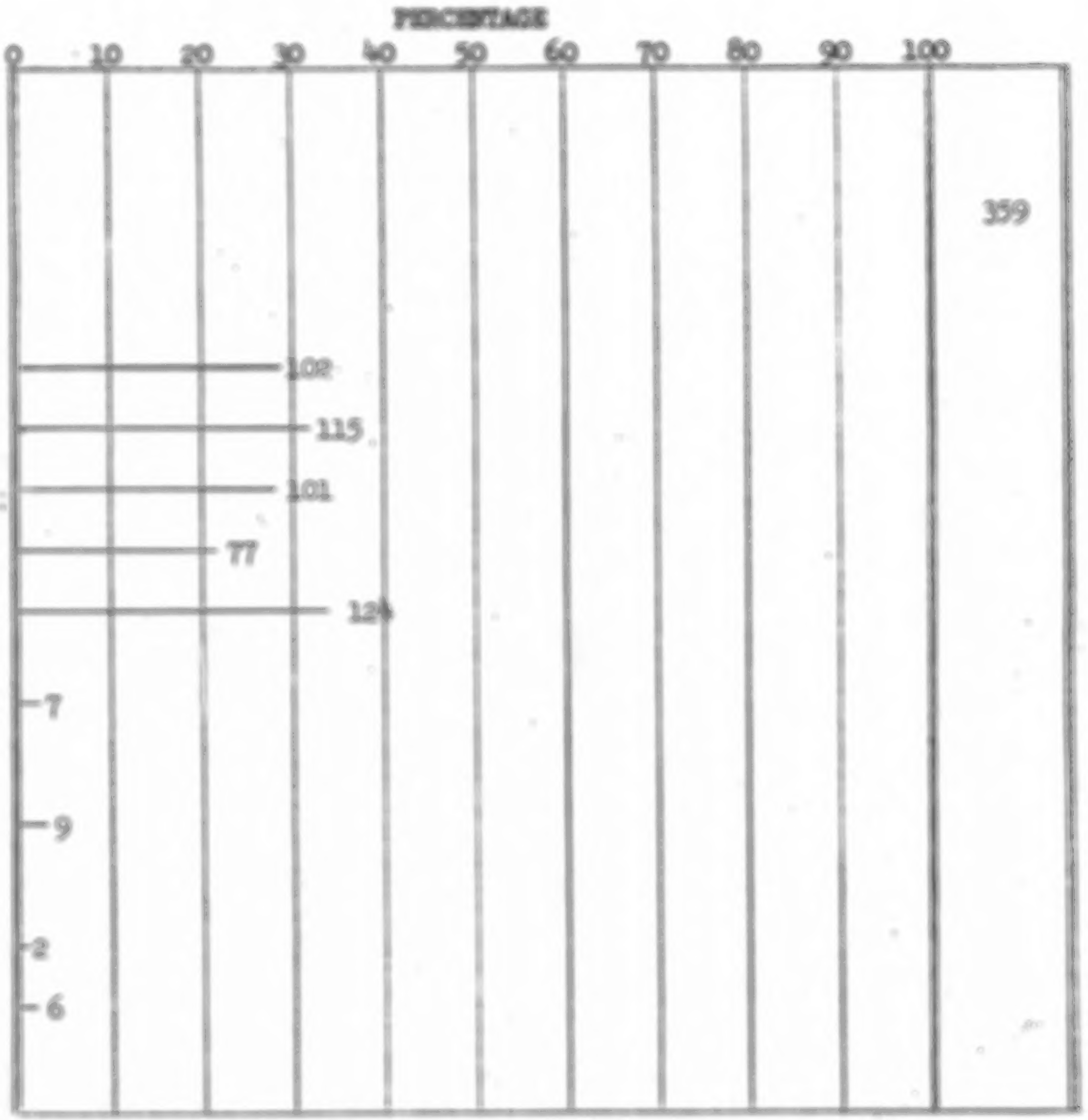
None of the local schools

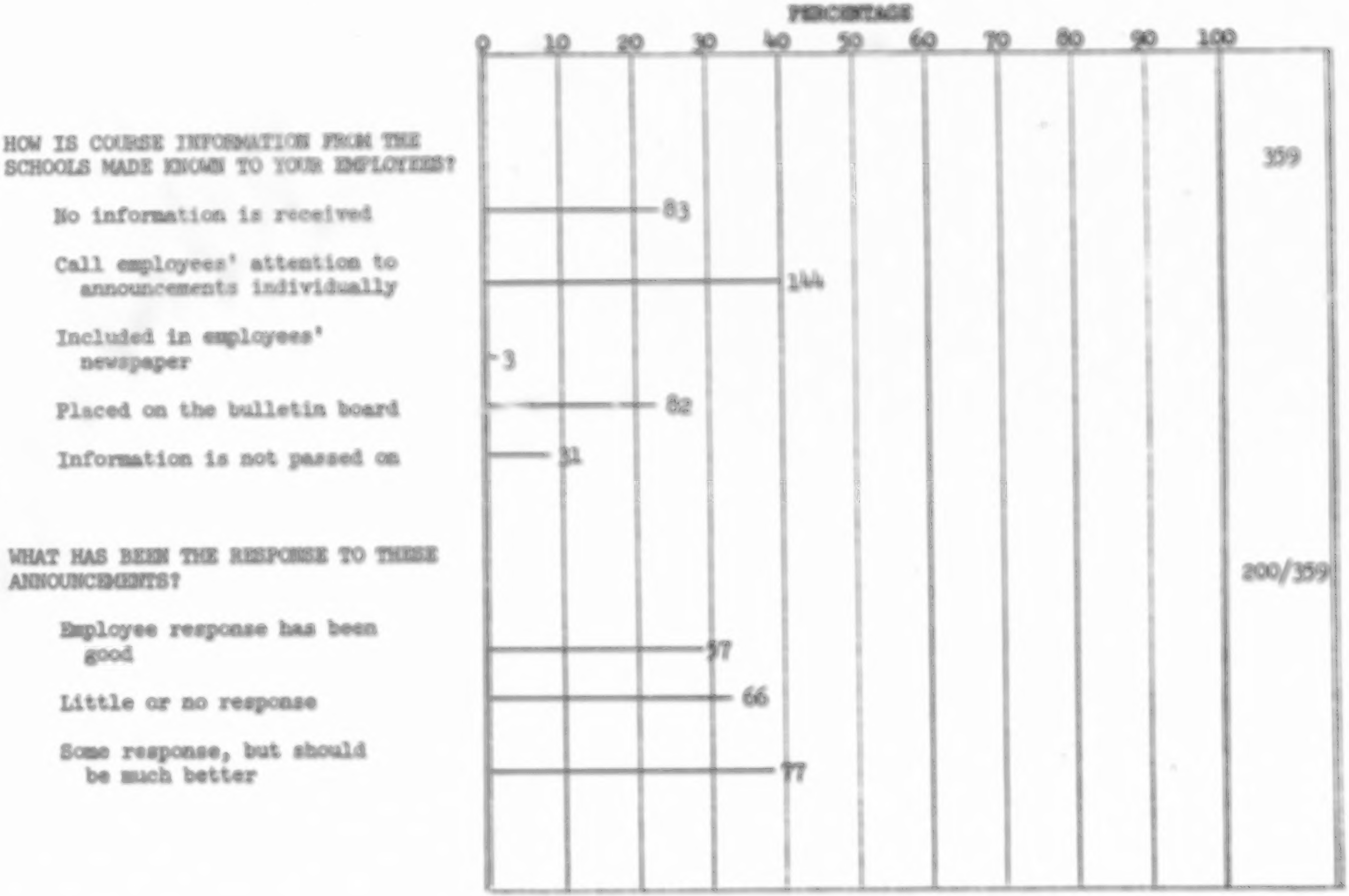
By regularly calling the schools for course information

Working with school representatives in developing courses to meet our training needs

Announcements brought to us by school representatives

Other means




PERCENTAGE
0
10
20
30
40
50
60
70
80
90
100
HOW IS COURSE INFORMATION FROM THE SCHOOLS MADE KNOWN TO YOUR EMPLOYEES?
359
No information is received
83
Call employees' attention to announcements individually
144
Included in employees' newspaper
3
Placed on the bulletin board
82
Information is not passed on
31
WHAT HAS BEEN THE RESPONSE TO THESE ANNOUNCEMENTS?
200/359
Employee response has been good
57
Little or no response
66
Some response, but should be much better
77

WHAT IS YOUR REACTION TO THE PROPOSAL OF SUBSIDIZING EMPLOYERS WHO PROVIDE ON-THE-JOB TRAINING FOR THOSE INDIVIDUALS NOT QUALIFIED FOR EMPLOYMENT BECAUSE OF INEXPERIENCE?

Am in favor but unable to participate

Am not in favor of the idea

We are already involved in a subsidy program

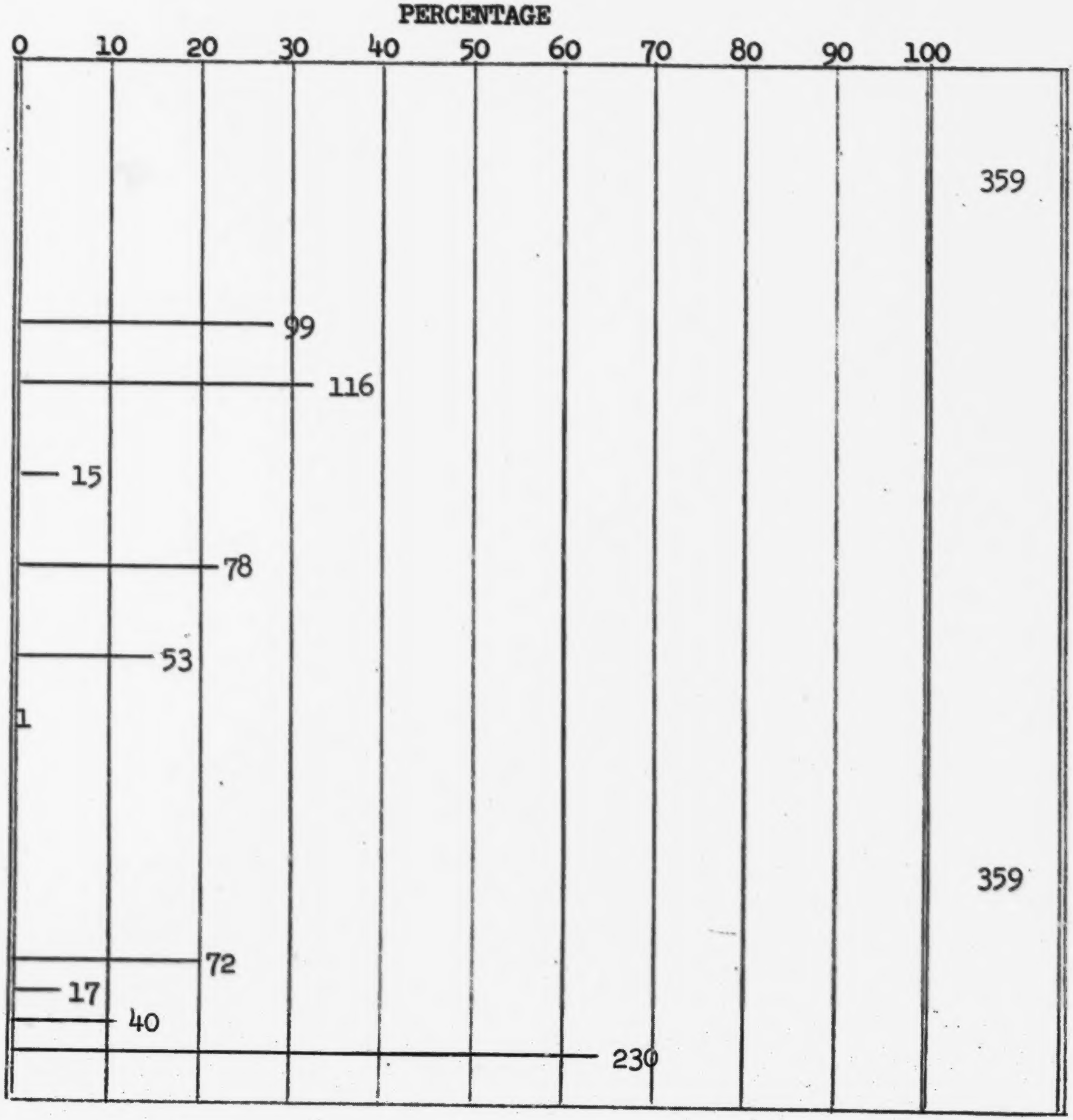
We hire and train these people without a subsidy

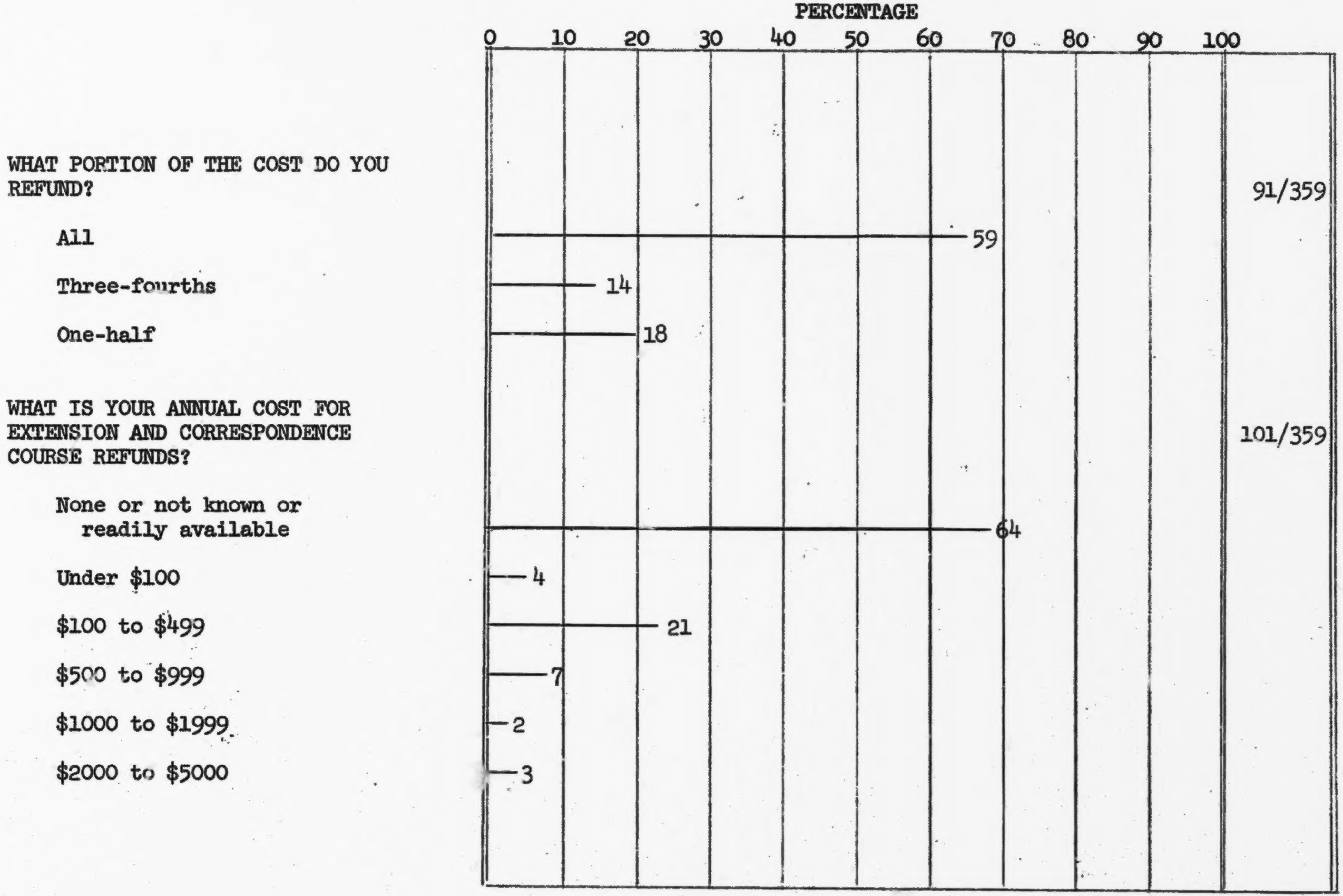
We would participate if it were well planned and coordinated

Other

WHICH OF YOUR EMPLOYEES ARE ELIGIBLE FOR TUITION OR FEE REFUNDS FROM EMPLOYEE SELECTED, FIRM SANCTIONED EXTENSION OR CORRESPONDENCE COURSES?

All employees
Only salaried employees
Selected individual employees
None or no policy




PERCENTAGE
0
10
20
30
40
50
60
70
80
90
100
WHAT PORTION OF THE COST DO YOU REFUND?
91/359
All
59
Three-fourths
14
One-half
18
WHAT IS YOUR ANNUAL COST FOR EXTENSION AND CORRESPONDENCE COURSE REFUNDS?
101/359
None or not known or readily available
64
Under $100
4
$100 to $499
21
$500 to $999
7
$1000 to $1999
2
$2000 to $5000
3

SUMMARY OF AWAY-FROM-THE-JOB TRAINING ACTIVITIES FOR EMPLOYEES BY SIZE OF FIRM IN RICHMOND

	GROUP SIZE				TOTALS
NUMBER OF EMPLOYEES	1 1-19	2 20-99	3 100-499	4 Over 500	
Total Number of Employees Reported	1,527	4,117	10,216	9,032	24,892
Number of Firms	210	96	46	7	359
Number of Firms Reporting Away-From-the-Job Training Activities	44	38	22	5	109
No. of Activities on Company Time	34 (52%)	68 (77%)	69 (78%)	17 (89%)	188 (74%)
No. of Activities on Joint Time	5 (9%)	9 (10%)	12 (13%)	-- --	26 (10%)
No. of Activities on Employee Time	20 (34%)	11 (13%)	6 (9%)	2 (11%)	39 (15%)
Total Number of Training Activities	59 (100%)	88 (100%)	87 (100%)	19 (100%)	253 (100%)
Number of Trainees	193	791	1746	3480	6210
Percent of Employees	12%	19%	17%	38%	24%
Total Annual Number of Man Hours Spent in Training	4,830	28,244	71,780	93,815	198,669
					MEAN
Average Annual Number of Training Hours per Trainee	25.0	36.0	41.0	27.0	32.0
Average Number of Training Hours per Employee	3.2	6.9	7.0	10.5	8.0

AWAY-FROM-THE-JOB TRAINING ACTIVITIES BY INDUSTRY

INDUSTRY, S.I.C. CODES AND NUMBER OF FIRMS	NUMBER OF EMPLOYEES	NUMBER OF FIRMS REPORTING TRAINING	NUMBER OF ACTIVITIES	TOTAL ANNUAL MAN HRS. OF TRAINING	AVERAGE NUMBER TRAINING HOURS PER EMPLOYEE
Construction, (14, 15, 16, 17), 29	1,036	2	4	562	.5
Service Stations, (18, 19), 12	98	2	2	340	2.9
Food, Lumber, Paper, (20, 24, 25, 26), 16	1,124	1	1	768	.7
Printing & Publishing, (27), 6	325	1	1	504	1.6
Chemicals & Petroleum, (28, 29), 25	4,901	10	21	81,483	16.6
Primary Metal, (33), 4	894	1	2	11,400	12.7
Metal Fabrication, (34), 19	3,205	5	7	5,975	1.9
Scientific Instrument Mfg. (38), 8	990	2	2	1,160	1.2
Miscellaneous Mfg. (39), 13	386	2	2	32	.08
Transportation, (40, 41, 42, 44), 15	1,317	2	3	1,964	1.5
Utilities, (48, 49), 5	816	2	18	35,532	43.5
Wholesale, (50), 31	2,298	6	11	3,181	1.4
Food Retail, (54), 7	107	1	1	1,200	11.2

INDUSTRY, S.I.C. AND NUMBER OF FIRMS	NUMBER OF EMPLOYEES	NUMBER OF FIRMS REPORTING TRAINING	NUMBER OF ACTIVITIES	TOTAL ANNUAL MAN HRS. OF TRAINING	AVERAGE NUMBER TRAINING HOURS PER EMPLOYEE
Automobile Dealers, (55), 11	387	11	29	5,440	14.1
Retail Trade, (53, 56, 57, 59), 40	1,049	11	24	7,569	7.2
Eating and Drinking Places, (58), 10	121	1	1	24	.2
Banking, (60), 9	423	9	19	10,970	25.9
Credit Insurance, Real Estate, (61, 64, 65), 24	112	9	9	985	8.8
Services, (70, 72, 73, 76), 25	199	3	4	1,000	5.0
Medical and Health (80), 23	560	3	5	2,124	3.8
Legal, (81), 4	20	--	--	----	---
Schools, (82), 2	2,617	2	3	2,484	.9
Member Organizations, (86), 4	44	--	--	----	---
Federal Government, (91), 5	429	3	7	644	1.5
State Government, (92), 5	189	3	5	484	2.6
Local Government, (93), 7	1,137	6	40	22,844	20.1
TOTALS 359	24,792	98	221	198,669	8.0

DISTRIBUTION OF TYPE OF AWAY-FROM-THE-JOB EDUCATIONAL ACTIVITY
BY OCCUPATIONAL GROUPS AND SIZE OF FIRM

OCCUPATIONS	TYPE OF COURSE								TOTALS
	JOB RELATED	OCCUPATION RELATED	TOOL SUBJECT	COMMUNI-CATION	SUPER-VISORY	MANA-GERIAL	BROAD-ENING	OTHER	
Operators	9	12	0	0	0	0	3	0	24
Journeymen	14	10	0	0	0	0	0	0	24
Clerical	0	28	1	0	1	0	0	0	30
Sales	8	40	0	0	1	1	0	2	52
Technicians	3	8	1	0	0	1	1	0	14
Professionals	1	48	0	3	3	3	3	0	61
Supervisors	2	5	0	3	18	10	0	0	38
Managers	1	30	0	2	3	42	6	1	85
TOTALS	38	181	2	8	26	57	13	3	328*
SIZE OF FIRM									
1 - 19	9	37	0	0	1	12	0	0	59
20 - 99	12	51	1	1	5	16	4	2	92
100 - 499	10	37	0	4	14	19	3	0	87
500 up	2	10	1	1	2	2	1	0	19
TOTALS	33	135	2	6	22	49	8	2	257*

*The totals do not agree because many of these activities included more than one occupational group.

TYPE OF AWAY-FROM-THE-JOB EDUCATIONAL ACTIVITY BY EVALUATION AND METHODS

HOW IS THE EFFECTIVENESS OF THE COURSE EVALUATED?	TYPE OF COURSE								TOTALS
	JOB RELATED	OCCUPATION RELATED	TOOL SUBJECT	COMMUNI-CATION	SUPER-VISORY	MANA-GERIAL	BROAD-ENING	OTHER	
Not evaluated	3	17	0	0	1	7	4	0	32
Observed change in performance	9	69	1	0	7	16	1	0	103
Test covering content	2	7	0	0	1	2	0	1	13
Student appraisal	1	23	0	4	7	4	1	0	40
Trainer's appraisal of student	5	19	1	0	3	6	0	1	35
Periodic merit reviews	0	8	0	0	6	3	0	0	17
Management's belief	7	26	2	0	7	14	2	0	58
Increased production	15	49	0	0	4	8	0	1	77
TOTALS	42	218	4	4	36	60	8	3	375
WHAT METHOD OF TEACHING IS USED?									
Programmed text or machine	1	3	0	0	1	2	0	0	7
Correspondence	0	8	0	0	1	5	0	1	15
Lecture-Discussion, films	21	108	2	4	15	37	5	2	194
Conference and role playing	0	20	0	2	13	14	3	1	53
Individual supervised project	0	0	0	1	0	1	0	0	22
Method not known	0	3	0	1	0	1	0	0	5
Demonstration and participation	20	28	0	1	0	0	0	0	49
TOTALS	42	170	2	9	30	60	8	4	325*

* Some courses are evaluated in more than one way and more than one method is used.

AWAY-FROM-THE-JOB TRAINING ACTIVITIES - SOURCE OF INSTRUCTORS

FROM WHAT DEPARTMENT, GROUP OR ORGANIZATION DO YOU DRAW YOUR INSTRUCTORS?	TYPE OF COURSE															TOTALS	
	JOB RELATED		OCCUPATION RELATED		TOOL SUBJECT		COMMUNI-CATION		SUPER-VISORY		MANA-GERIAL		BROAD-ENING		OTHER		
	R.	Co.	R.	Co.	R.	Co.	R.	Co.	R.	Co.	R.	Co.	R.	Co.	R.	R.	Co.
Firm's local training staff	9	2	17	2	1	--	1	--	3	3	6	3	--	--	1	38	10
Management and Staff Personnel	8	1	33	3	1	1	3	1	13	8	10	3	--	2	1	69	19
Personnel Director	--	1	2	1	--	--	1	--	--	2	4	--	--	--	--	7	4
Outside Consultants, Training Firm, Trade Association	--	--	50	1	--	--	2	1	1	1	14	1	4	--	--	71	4
Corporate Headquarters Personnel	--	--	7	1	--	--	--	--	6	2	3	2	--	--	--	16	5
Colleges and Universities	--	--	10	--	--	--	--	--	3	--	6	2	4	--	--	23	2
Vendors	16	1	18	2	--	--	--	--	--	--	8	--	--	--	--	42	3
Other	--	--	4	--	--	--	--	--	--	--	1	--	--	--	--	5	--
TOTALS	33	5	151	10	2	1	7	2	26	16	52	11	8	2	2		

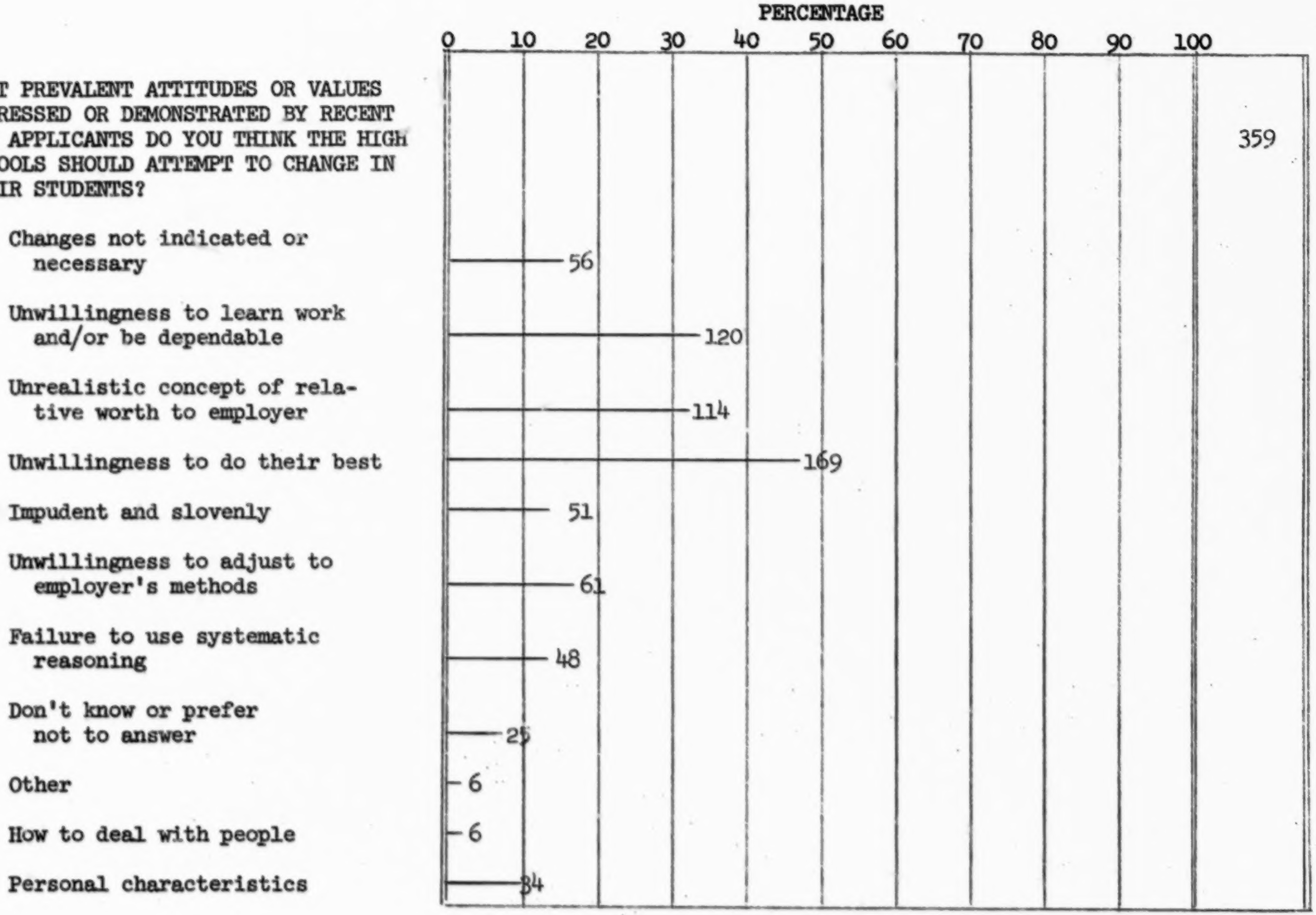
	R.	Co.
Total Number of Courses	271	47
Number of Firms	108	12
Percent of Total No. Firms	30%	80%
Courses per Firm	2½	4

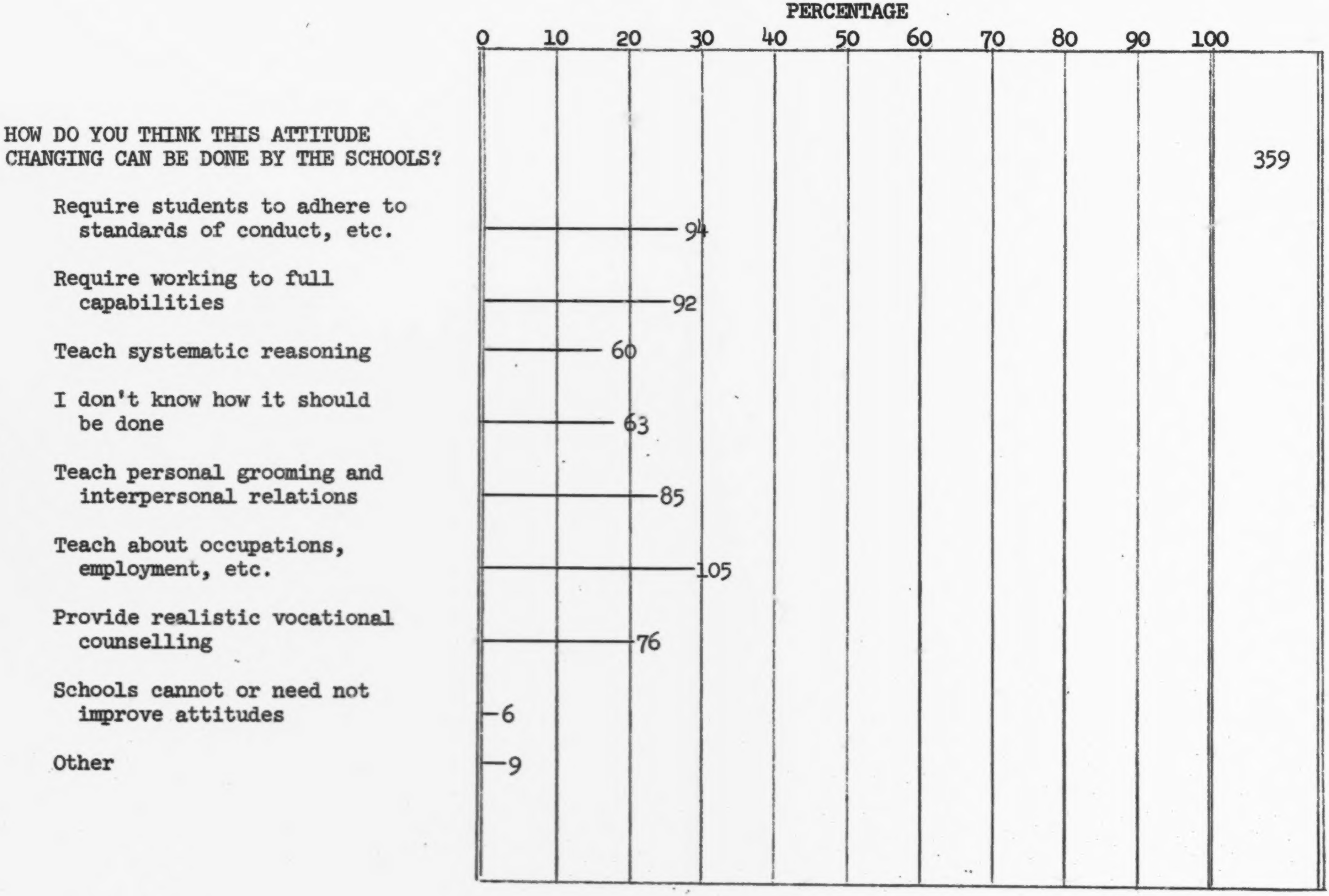
Co. - County
R. - Richmond

COUNTY MANUFACTURING FIRMS' AWAY-FROM-THE-JOB TRAINING ACTIVITIES

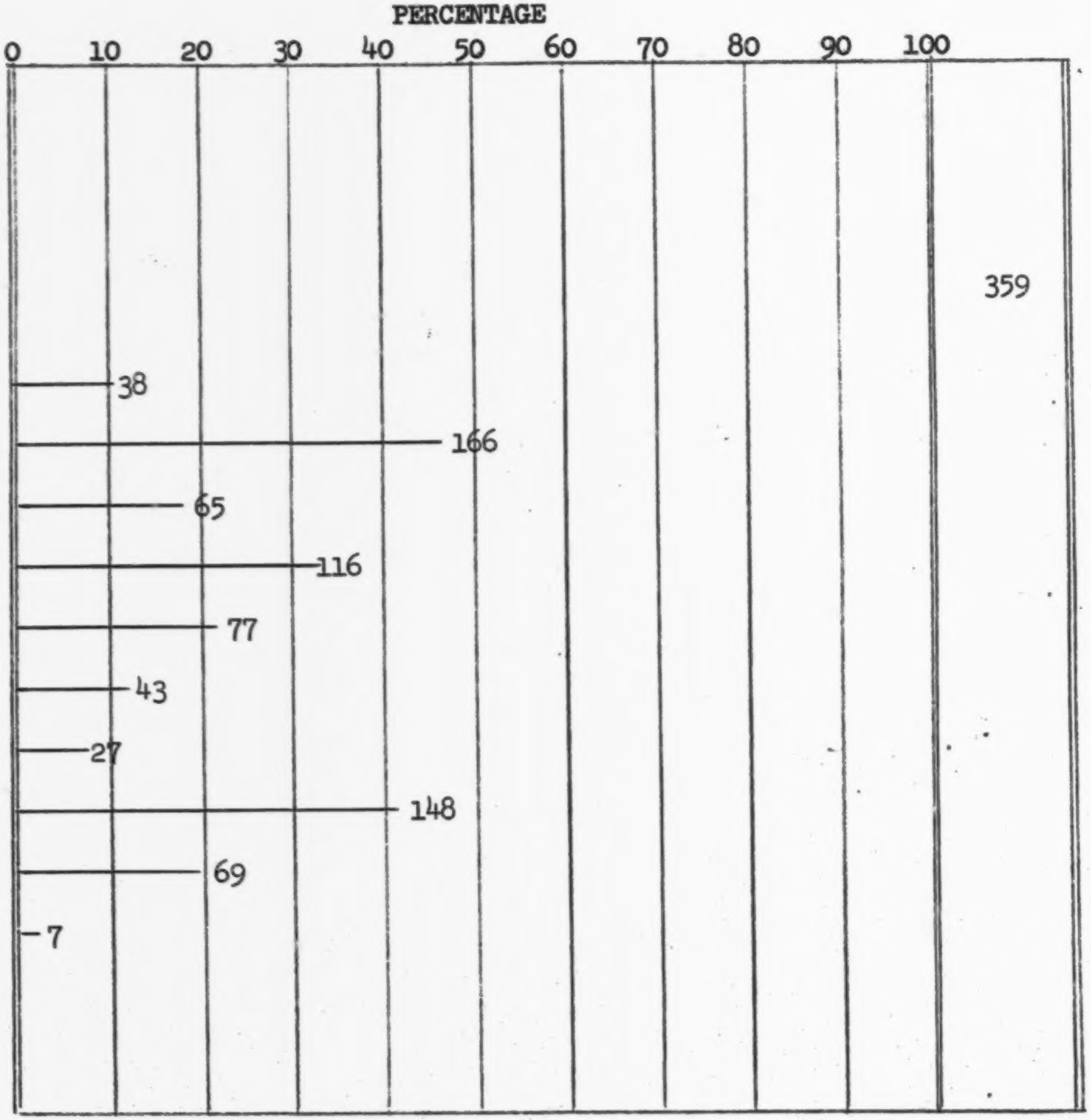
	COMPANY CODE NUMBER															
	1	2	3	4	5	6	7	8	9	10	12	13	15	16	18	TOTAL
Number of employees	240	421	1485	237	700	440	400	235	313	170	557	936	660	3242	911	10,776
Percent of Employees in Training Activities	17	6	26	10	10	23	12	0	12	0	0	2	15	16	14	
Average Annual Training Hours Per Employee	4.2	1.4	2.4	3.4	9.1	17.2	11.0	--	2.3	--	--	.6	16.2	23.4	6.1	12.4
Training Activity																
1 First Aid			X													
1 Operator													X	X		
2 Apprentice Courses														X		
2 Maintenance Mech. Vestibule School						X										
2 New Technology	X			X										X		
2 Accident Prevention									X							
2 Computer Programming					X											
3 Chemistry					X											
4 Writing Clinic			X													
4 Communications															X	
5 Supervision			X	X	X				X					X		
5 Foremen Training														X		
5 Conference Leaders						X									X	
5 Employee Evaluation						X										
5 Accident Control			X												X	
6 Mgt. Development		X	X	X									X	X	X	
6 Exec. Development														X	X	
6 Leadership															X	
7 Sensitivity Training							X					X				
7 Driver Improvement, NSC (All employees)						X										
Total Training Hours																33,459

WHAT PREVALENT ATTITUDES OR VALUES EXPRESSED OR DEMONSTRATED BY RECENT JOB APPLICANTS DO YOU THINK THE HIGH SCHOOLS SHOULD ATTEMPT TO CHANGE IN THEIR STUDENTS?

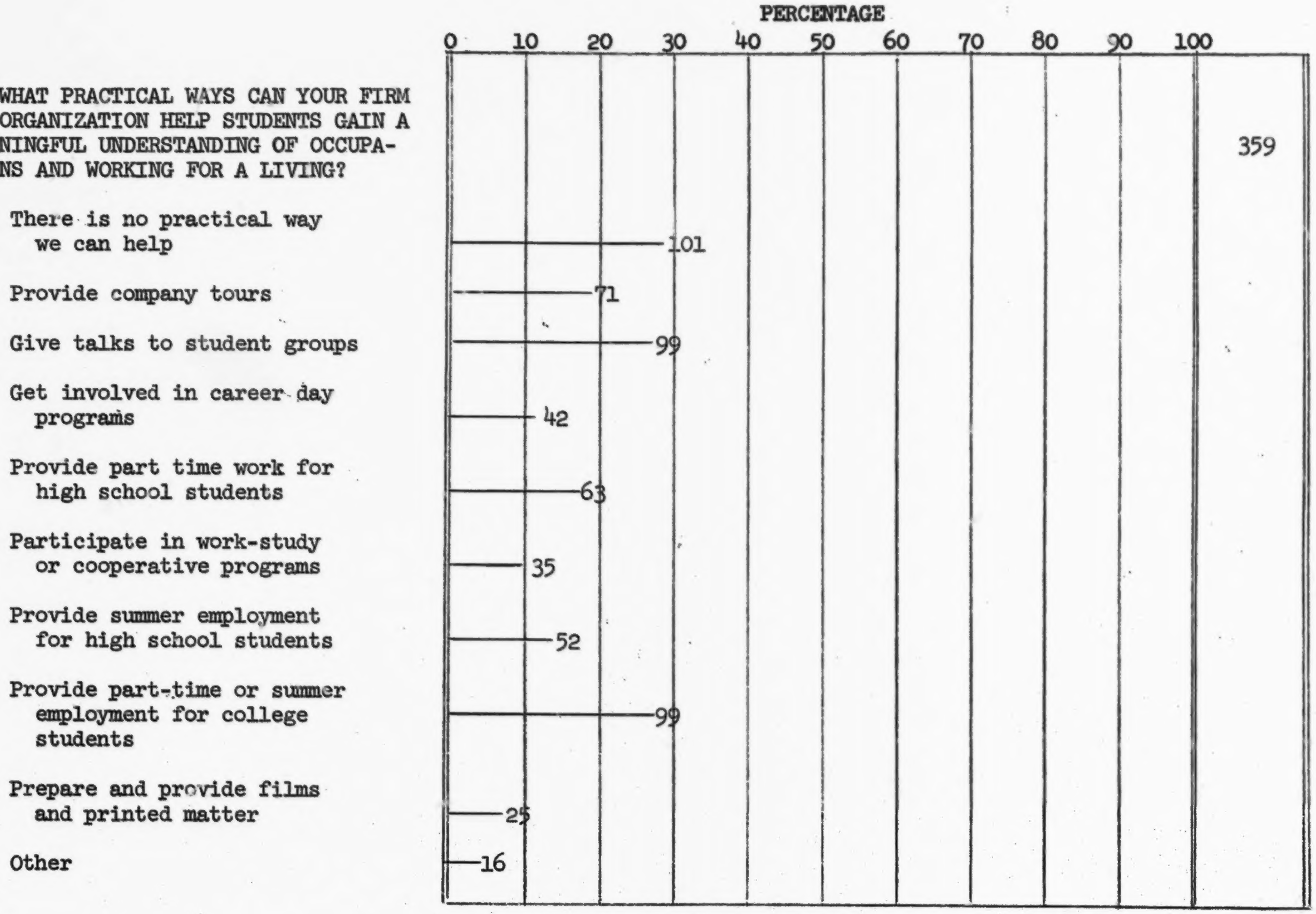



PERCENTAGE
0
10
20
30
40
50
60
70
80
90
100
HOW DO YOU THINK THIS ATTITUDE CHANGING CAN BE DONE BY THE SCHOOLS?
359
Require students to adhere to standards of conduct, etc.
94
Require working to full capabilities
92
Teach systematic reasoning
60
I don't know how it should be done
63
Teach personal grooming and interpersonal relations
85
Teach about occupations, employment, etc.
105
Provide realistic vocational counselling
76
Schools cannot or need not improve attitudes
6
Other
9

ARE THERE PARTICULAR COURSES THAT A HIGH SCHOOL STUDENT CAN STUDY THAT WOULD BE ESPECIALLY USEFUL IF EMPLOYED BY YOUR FIRM?



IN WHAT PRACTICAL WAYS CAN YOUR FIRM OR ORGANIZATION HELP STUDENTS GAIN A MEANINGFUL UNDERSTANDING OF OCCUPATIONS AND WORKING FOR A LIVING?



DO YOU BELIEVE COMMUNICATIONS BETWEEN YOUR ORGANIZATION AND LOCAL EDUCATORS ABOUT PROBLEMS OF MUTUAL INTEREST NEED TO BE IMPROVED?

Yes
1
2
3
4

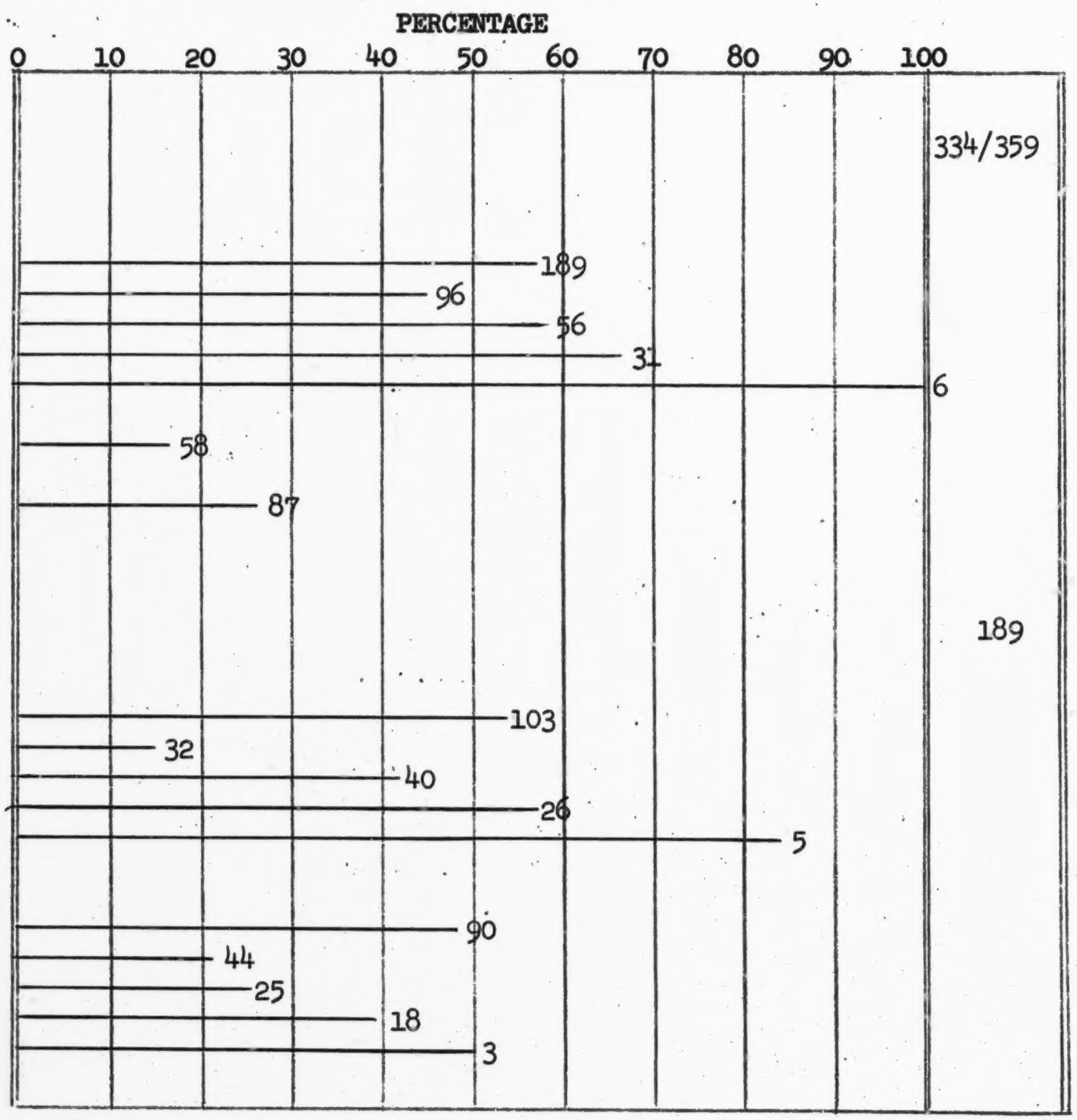
No

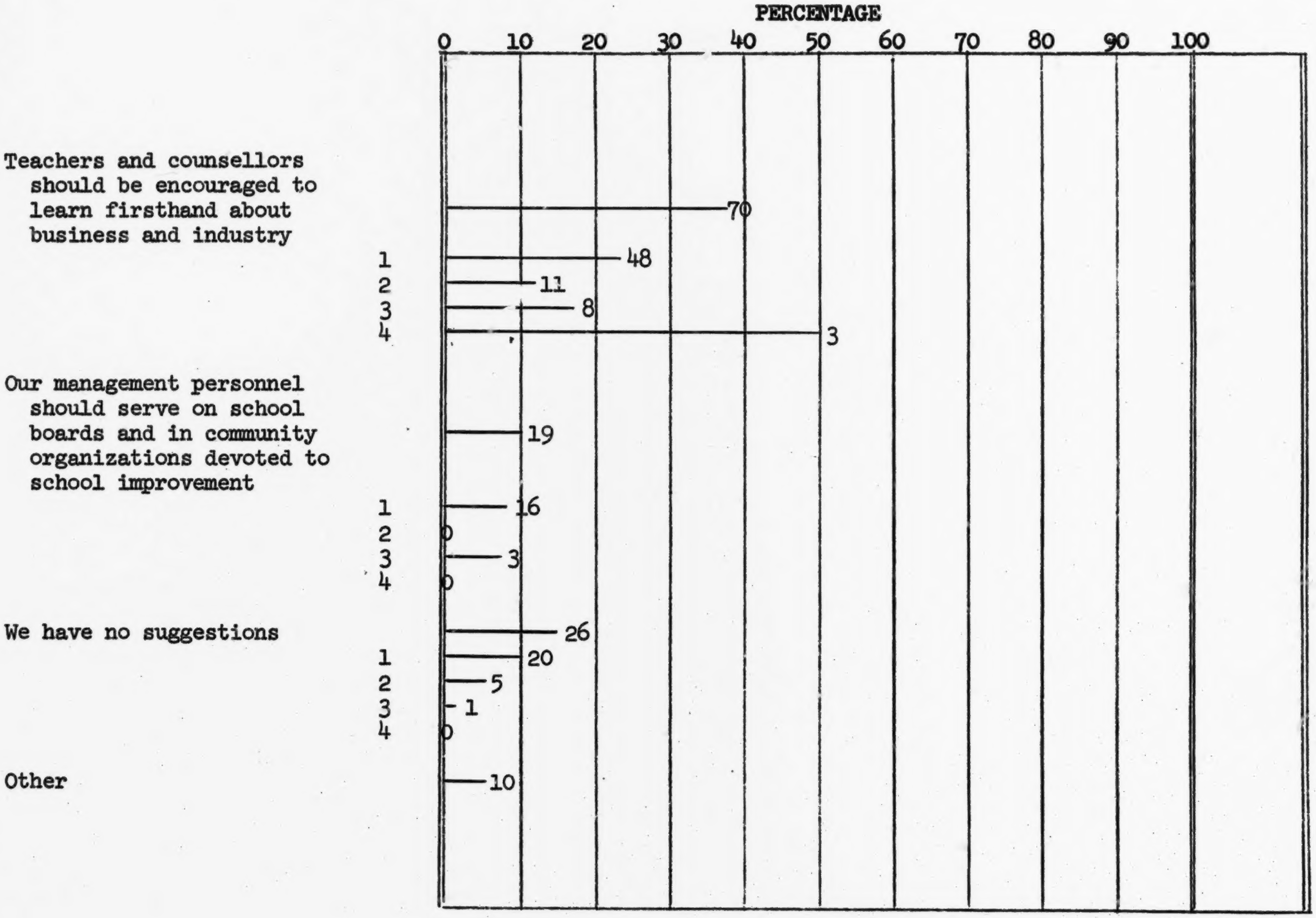
No communication needed

IF YOU BELIEVE COMMUNICATIONS NEED TO BE IMPROVED, WHAT DO YOU THINK SHOULD BE DONE?

Responsible school representative should contact us
1
2
3
4

Business-Industry-Education Councils should supply the channels for communication
1
2
3
4




PERCENTAGE
0
10
20
30
40
50
60
70
80
90
100
Teachers and counsellors should be encouraged to learn firsthand about business and industry
70
1
48
2
11
3
8
4
3
Our management personnel should serve on school boards and in community organizations devoted to school improvement
19
1
16
2
0
3
3
4
0
We have no suggestions
26
1
20
2
5
3
1
4
0
Other
10

HOW DO YOU USUALLY SECURE INFORMATION FROM OR ABOUT YOUR EMPLOYEES REGARDING THEIR INTEREST AND NEED FOR FURTHER EDUCATION, TRAINING, OR RETRAINING?

Attitude surveys or questionnaires

In scheduled performance evaluation interviews

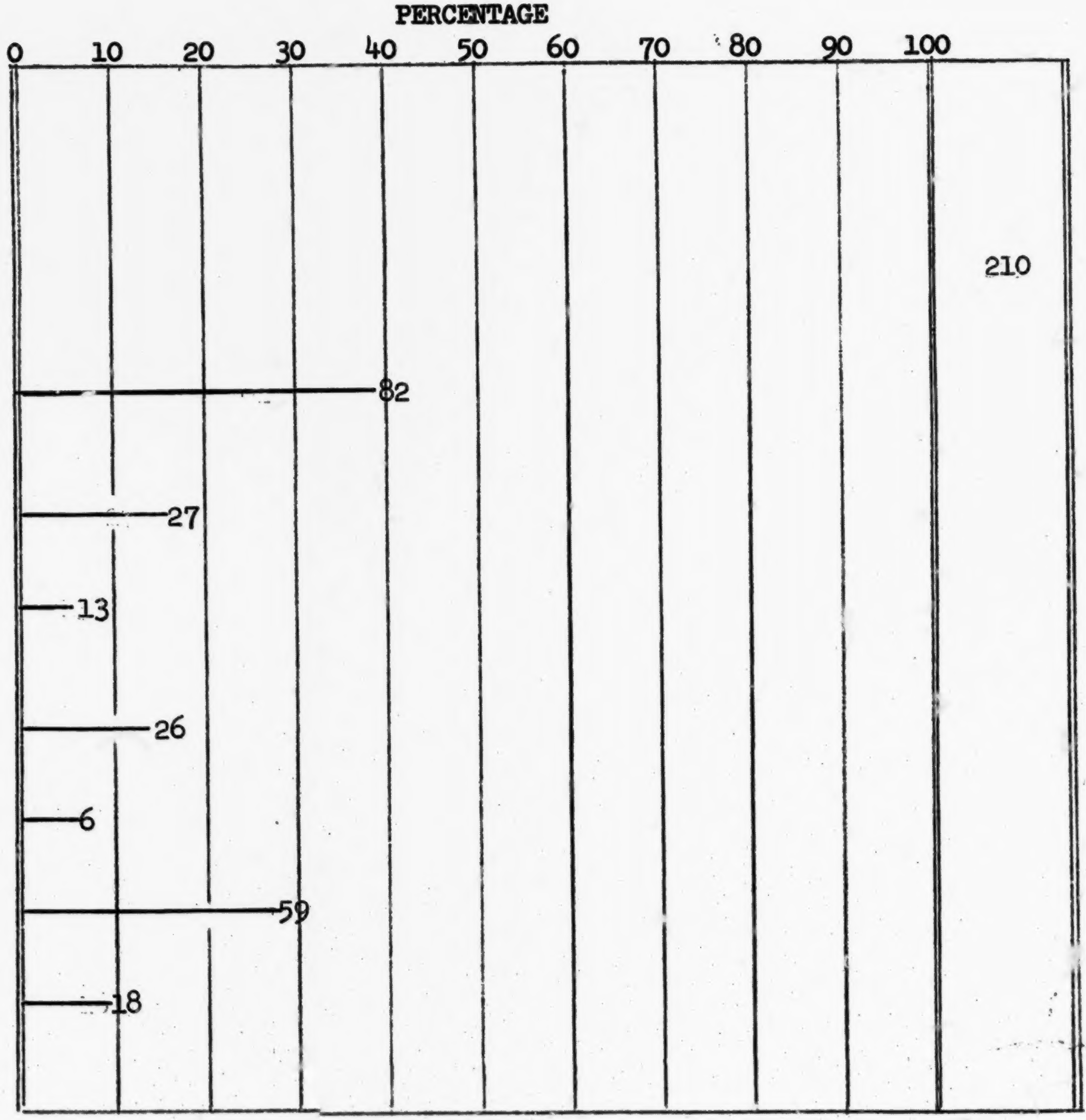
By observing performance on the job

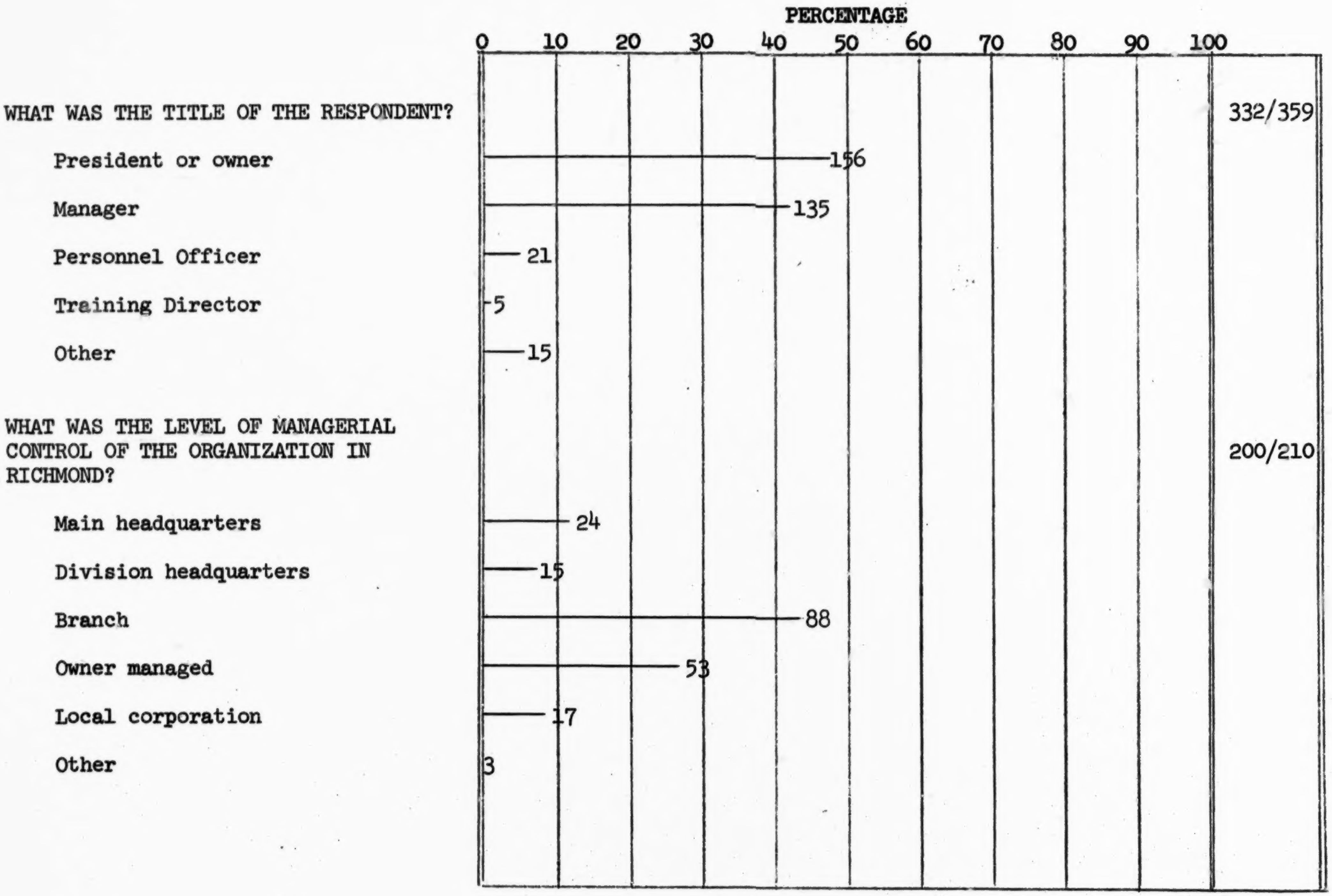
When we think announced courses would help any of our employees we suggest they attend

From personnel records

It is up to the employee, we do not inquire

Employees ask us about courses they want




PERCENTAGE
0
10
20
30
40
50
60
70
80
90
100
WHAT WAS THE TITLE OF THE RESPONDENT?
332/359
President or owner
156
Manager
135
Personnel Officer
21
Training Director
5
Other
15
WHAT WAS THE LEVEL OF MANAGERIAL CONTROL OF THE ORGANIZATION IN RICHMOND?
200/210
Main headquarters
24
Division headquarters
15
Branch
88
Owner managed
53
Local corporation
17
Other
3

SUMMARY OF ANSWERS TO QUESTIONS FROM CONTRA COSTA COUNTY MANUFACTURING FIRMS
(Not included in the Richmond Totals)

RESPONDENTS: 9 personnel officers, 4 training directors, 1 manager

LEVEL OF MANAGERIAL CONTROL: 13 branches, 1 main headquarters, 1 division headquarters

No. OF UNIONS DEALT WITH: 2 nine, 8 one, 4 two, 1 three

EFFECT OF UNION CONTRACT ON TRAINING ACTIVITIES: 2 no union, 8 no effect, 4 encourages, 1 limits

EDUCATIONAL REQUIREMENTS:

	None	Screening Test	High School	2 yr. College	4 year College	Professional Degree
Operatives	2	8	5			
Journeymen		7	7			
Clerical		1	14			
Sales*				3	2	
Technicians*			3	11		
Professional				1	4	10
Supervisors		1	6	4	3	1
Managerial				3	6	5

EXPERIENCE REQUIREMENTS:

	None	Any Previous work	Similar Previous work	No Training	Reputation of Competence
Operatives	10	5			
Journeymen	3	1	3	8	
Clerical	5	1	7	2	
Sales	1		1	3	
Technicians	5	1	4	4	
Professional	4		2	3	6
Supervisors			5	8	2
Managerial				4	10

ON-THE-JOB TRAINING:

	Simple Job, No Training	Spontaneous Training	Experienced, No Training	Planned Instruction
Operatives	2	10		2
Journeymen		1	7	7
Clerical		10	3	2
Sales			3	2
Technicians		3	6	5
Professional		1	11	3
Supervisors			7	7
Managerial			12	3

* One firm has no technicians,
Ten firms have no salesmen

SAFETY TRAINING:

	No Hazard	No Formal Training	Formal Training
Operatives		1	14
Journeymen		1	14
Clerical	2	1	12
Sales	1	1	3
Technicians		1	13
Professional	1	1	13
Supervisors		1	14
Managerial		1	14

PLANNED INDUCTION: 15 yes

APPRENTICE PROGRAM: 7 yes, 8 no

PLANS APPRENTICE WORK EXPERIENCE:
2 company and union, 6 job supervisor, 2 instructing journeyman

PRESENTS RELATED COURSE WORK: 1 junior college, 3 company, 1 correspondence, 2 schools

DETERMINES CONTENT: 2 joint conference, 3 company, 2 school

FORMAL APPRENTICESHIP CONTRACTS SIGNED: 3 yes, 3 no

ARE YOU SATISFIED WITH APPRENTICESHIP PROGRAM? 4 yes, 2 no

OFF-THE-JOB ACTIVITIES FOR EMPLOYEES ONLY: 10 yes, 5 no

OFF-THE-JOB ACTIVITIES PROVIDED BY OUTSIDE AGENCY: 9 yes, 6 no

ATTITUDES YOU THINK SHOULD BE CHANGED:
1 none, 5 unwillingness, 9 unrealistic, 6 don't do best, 2 indifference, 6 don't adjust to employer's methods, 1 don't know, 2 other

HOW ATTITUDE CHANGING SHOULD BE DONE:
7 discipline in schools, 5 require working to full capabilities, 5 teach systematic reasoning, 7 teach personal grooming, 12 teach about occupations, 12 provide vocational counselling

WAYS YOUR FIRM CAN HELP:
13 provide tours, 8 give talks, 8 participate in career day programs, 2 part-time work for high school students, 6 participate in work-study programs, 3 summer employment for high school students, 12 summer employment for college students, 8 prepare printed materials and films

PARTICULAR COURSES USEFUL TO YOUR FIRM:
11 review in basics, 8 science and mathematics, 7 business, 8 shop, 5 blueprint reading, 3 humanities, 10 interpersonal relations, 9 business economics

COURSE ANNOUNCEMENTS:
15 from adult evening schools, 15 from community colleges, 15 from University Extension, 4 from trade associations, 5 work with schools to develop courses, 2 brought to us by school representative

HOW IS INFORMATION MADE KNOWN? 8 individually, 3 through employees' newspaper, 15 posted on bulletin boards

RESPONSE: 2 good, 2 little or none, 7 some, but should be better, 4 has not been measured

COMMUNICATIONS NEED TO BE IMPROVED: 14 yes, 1 no

WHAT SHOULD BE DONE?
5 school representatives should contact us, 10 Business-Industry-Education councils, 10 teachers and counsellors should learn about industry, 8 industrial management on school boards

SUBSIDIZING COMPANIES FOR TRAINING:
3 in favor, unable to participate; 3 not in favor; 3 hire without a subsidy; 1 would participate if well planned

TUITION OR FEE REFUNDS: 8 all employees, 4 salaried employees, 3 on a selective basis

REFUND FOR: 15 tuition, 10 fees, 8 texts and supplies, 1 travel

AMOUNT OF REFUND: 8 all, 6 three-fourths, 1 one-half

TOTAL ANNUAL COST: 3 not calculated, 1 \$100-\$499, 2 \$500-\$999, 4 \$1000-\$2000

HOW TRAINING NEED INFORMATION IS SECURED:
6 evaluation interviews, 9 performance observed, 7 upon our suggestion, 1 personnel records, 4 we do not inquire, 11 employees ask us

WHO IS RESPONSIBLE FOR TRAINING?
4 training directors; 5 personnel managers; 1 plant manager; 3 department heads, foremen, or supervisors

NUMBER OF APPRENTICES AND JOURNEYMEN IN COUNTY FIRMS WITH APPRENTICESHIP PROGRAMS:

Firm Code No.		Apprentices	Journeymen
3		43	125
	Carpenters	5	20
	Electricians	8	14
	Metal craft (welders, pipefitters, sheet metal)	10	30
	Millwrights, machinist, mechanics	20	61
4		1	14
	Machinist	0	8
	Tool and die	1	3
	Electrician	0	3
5		12	74
	Mechanical Repairmen	6	44
	Machinist	0	8
	Riggers	1	4
	Electrician	1	10
	Instrument man	2	7
	Carpenter	2	1
15		22	65
	Boilermaker	3	8
	Carpenter, Painter, Insulator	4	6
	Electrician	2	6
	Instrument Repairman	4	13
	Machinist	5	18
	Pipefitter	4	14
16		33	310
	Electricians	7	84
	Instrument Repairman	2	16
	Electronic Repairman	3	14
	Machinist	7	64
	Painter	2	13
	Pipefitter	5	55
	Rigger	3	23
	Sheetmetal	2	7
	Welder	2	34
18		16	56
	Machinist	3	6
	Millwright	8	16
	Carpenter	0	1
	Electrician	2	10
	Pipefitter	1	6
	Auto Mechanic	1	4
	Painter	0	4
	Welder	0	5
	Roll Grinder	0	1
	Instrument Repairmen	1	3

UNIVERSITY OF CALIFORNIA, BERKELEY

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO
1868
SANTA BARBARA • SANTA CRUZ

SCHOOL OF EDUCATION
BERKELEY, CALIFORNIA

Through a grant from the U. S. Department of Education, the University of California, Department of Education, Berkeley, is making a research study of the various educational activities of the businesses and industries in the City of Richmond.

The need for better preparation of the nation's students for employment is generally recognized. We believe that detailed and pertinent information from the employers in a representative community about their educational activities would be of real help to educators in planning school curricula and teaching methods.

All employers located in Richmond will be contacted. Information is to be obtained over the next several months from most of the firms by interview. Arrangements for the interview will be made by me or my assistant, Mr. Gordon Cavana, by telephone, as our schedule permits and at a time convenient to you or who ever you may designate as our initial contact. We will want to know what training activities your organization engages in, to what extent, and why.

Those of you who cannot be interviewed because of time limitations will be asked to complete and return a questionnaire sometime during the study.

We expect the survey and its results to be of mutual benefit. You may gain a new appreciation of training in your own organization from this study.

Mr. Cavana and I are looking forward to making the personal acquaintance of as many of you as possible.

Sincerely yours,

John A. McClure

Dr. John A. McClure,
Associate Professor and Investigator

Business telephone: 845-6000
ext. 4215

Survey Code No. ____________
1 2 3 4

Name of firm
or organization ____________
Standard Industrial
Classification Code No. ____
5 6 7

Address ____________
Date ____________

Respondent's name and title ____________
8

____

9 Level of managerial control (in Richmond): Main hdqtrs. ____

Division hdqtrs. ____ Branch ____ Owner managed ____ Local firm or

organization with hired manager ____ Other ____________

Total average number of employees in Richmond ____________
10 11 12 13

14 What unions, if any, represent your employees? ____________

____

* OCCUPATIONAL GROUPS SUMMARY

WE WANT TO GET AN IDEA OF THE GENERAL COMPOSITION OF YOUR WORK FORCE SO THAT WE CAN RELATE TRAINING ACTIVITIES BY OCCUPATIONAL GROUP. HERE ARE THE OCCUPATIONAL CLASSES WE ARE USING. WHAT ARE THE APPROXIMATE NUMBERS OR PERCENT OF THE TOTAL EMPLOYMENT IN EACH AND WHAT ARE THE PREDOMINANT JOB CATEGORIES?

I OPERATIVE (necessary related job knowledge learned on-the-job, e.g., skilled and unskilled assemblers, machine operators, laborers, material handlers, service workers, process equipment operators, production inspectors, truck drivers). No. ____

____

II TRADE CRAFTSMEN (Apprenticeship of on-the-job experience and off-the-job related course work required, or its equivalent).No. ____

____

III CLERICAL (e.g., correspondence, records, accounts, general office work). No. ____

____

IV SALES No. ____

____

V TECHNICIANS (minimum of two years of college or equivalent with course work in technology). No. ________

____

VI PROFESSIONAL (degree required or its equivalent, e.g., scientist, engineer, accountant). No. ________

____

VII FIRST LINE SUPERVISION No. ________

____

VIII MANAGERIAL No. ________

____

15 HAVE THE NUMBERS IN ANY OF THESE OCCUPATIONAL GROUPS BEEN SIGNIFICANTLY INCREASING ______, DECREASING ______, OR REMAINING STABLE ______?

16 IF SIGNIFICANT, HOW MUCH AND WHY, IN SUCH TERMS AS CHANGES IN TECHNOLOGY, BETTER WORK METHODS, RE-ORGANIZATION, RELOCATION AND/OR VOLUME OF BUSINESS OR WORK LOAD?

Comments: ____

____

____

____

17 HOW DOES YOUR UNION CONTRACT ENCOURAGE OR LIMIT YOUR TRAINING OR RETRAINING ACTIVITIES? (no effect ______ encourages ______ limits __)

Comments: ____

____

____

ON-THE-JOB TRAINING

WHAT ARE YOUR USUAL MINIMUM EDUCATIONAL REQUIREMENTS OF JOB APPLICANTS FOR EACH OCCUPATIONAL GROUP?

	OPERATIVES 18	TRADE CRAFTS 19	CLERICAL 20	SALES 21	TECHNICIANS 22	PROFESSIONAL 23	FIRST LINE SUPERVISORS 24	MANAGERIAL 25
None								
None but must pass screening test								
High school graduate								
Business college or technical institute								
Junior college or equivalent								
Any college degree								
Professional or technical degree								

WHAT ARE YOUR USUAL MINIMUM EXPERIENCE QUALIFICATIONS OF JOB APPLICANTS FOR EACH OCCUPATIONAL GROUP?

	26 OPER	27 TRADE CRAFT	28 CLER	29 SALES	30 TECH	31 PROF	32 F. L. SUPER	MANAG
None								
Satisfactory work experience of any kind								
Previous experience in similar work but additional significant training anticipated								
Sufficient previous experience in similar work so training is not necessary or consequential								
Established reputation of competence								

Comments: ____

____

____

TO WHAT EXTENT DO YOU PREPARE FOR ON-THE-JOB TRAINING IN THE VARIOUS OCCUPATIONAL GROUPS?	OPER	TRADE CRAFT	CLER	SALES	TECH	PROF	F. L. SUPER	MANAG
Each employee develops his own methods of doing the work	34	35	36	37	38	39	40	41
Methods of doing the work have been established by precedent but have not been standardized								
Job analyses are made to determine what tasks constitute the job, how these tasks are to be performed, what related knowledge and skills are required to perform these tasks as specified, and how these can be learned most effectively.								

Comments: ______________________________

____

HOW FORMAL IS YOUR ON-THE-JOB INSTRUCTION IN THE VARIOUS OCCUPATIONAL GROUPS?	OPER	TRADE CRAFT	CLER	SALES	TECH	PROF	F. L. SUPER	MANAG
Jobs are so simple they can be learned with a minimum of direction, no instruction necessary.	42	43	44	45	46	47	48	49
The new employee (to learn the job) is placed with an experienced employee, or supervisor, instruction is spontaneous or given when asked for.								
The new employee, because of required previous experience, union assignment, or technical training, is expected to do the job with minimum direction and without instruction.								
The new employee learns the job under planned instruction and mastery measurement by his supervisor or job trainer.								

Comments: ______________________________

____

50. DOES THE QUALITY AND CONSISTENCY OF ON-THE-JOB TRAINING VARY BETWEEN ORGANIZATIONAL UNITS? Yes ______ No ______

51. IF YES, WHY IS THIS SO?

___ 1. There is managerial support for training.
___ 2. The trainer's attitude and ability to teach.
___ 3. Supervisors are trained in the techniques of job instruction.
___ 4. General intelligence level and attitudes of employees in each unit.
___ 5. Variations in job requirements.
___ 6. Other: Comments ______________________________

52. DO YOU USE ANY UNUSUALLY EFFECTIVE TECHNIQUES OF JOB TRAINING THAT YOU HAVE DEVELOPED OR ADOPTED? Yes ______ No ______
IF YES, PLEASE EXPLAIN. ______________________________

____

____

HOW IS SAFETY TRAINING HANDLED IN YOUR FIRM?	OPER	TRADE CRAFT	CLER	SALES	TECH.	PROF	F. L. SUPER	MANAG
No job-connected accident hazards or health problems exist, safety training is deemed unnecessary.	53	54	55	56	57	58	59	60
Hazards exist but no formal training program has been established								
Formal group training is employed using safety posters, assignments to safety committees, films, safety booklets, and/or safety meetings.								

Comments: ______________________________

61. DO YOU USE ANY UNUSUAL TECHNIQUES FOR SAFETY TRAINING THAT YOUR FIRM USES OR HAS DEVELOPED? Yes ______ No ______

Comments: ______________________________

____

62 DO YOU GIVE NEW EMPLOYEES A PERSONNEL INFORMATION HANDBOOK?
Yes ______ No ______

Comments: ____

____

63 DO YOU HAVE PLANNED INDUCTION OF NEW EMPLOYEES? Yes ______ No ______

Comments: ____

____

____

64 DO YOU USE ANY UNUSUALLY EFFECTIVE TECHNIQUES FOR INDUCTION OR ORIENTATION TRAINING THAT YOU HAVE DEVELOPED OR ADOPTED?
Yes ______ No ______

Comments: ____

____

____

65 DO YOU HAVE AN APPRENTICESHIP PROGRAM? Yes ______ No ______
IF YES,
a) WHAT TRADES AND HOW MANY APPRENTICES AND JOURNEYMEN ARE IN EACH?

______________________________ App. ______ Jryn. ______
______________________________ App. ______ Jryn. ______
______________________________ App. ______ Jryn. ______
______________________________ App. ______ Jryn. ______

66 Total Number of Apprentices ______

67 b) BY WHOM IS THE WORK EXPERIENCE PLANNED?
___ 1. By the union
___ 2. By joint company-union planning
___ 3. By the job supervisor
___ 4. By the instructing journeymen
___ 5. Other: Comments ______________________________

68 c) WHO PRESENTS THE RELATED COURSE WORK?
___ 1. The union
___ 2. The junior college
___ 3. The company
___ 4. The trade association
___ 5. Other: Comments ______________________________

d) BY WHOM WAS THE CONTENT DETERMINED?

___ 1. The union

___ 2. The union and the state apprenticeship board

___ 3. By joint conference of the company, union, and state apprenticeship board

___ 4. Other: Comments ____________________

e) ARE FORMAL APPRENTICESHIP CONTRACTS SIGNED BETWEEN THE APPRENTICE AND THE COMPANY? Yes ______ No ______

f) ARE YOU SATISFIED WITH YOUR APPRENTICESHIP PROGRAM? Yes ______ No ______

IF NO, WHAT CHANGES DO YOU SUGGEST? ____________________

____

____

DO YOU PROVIDE OFF-THE-JOB EDUCATIONAL ACTIVITIES FOR EMPLOYEES ONLY? Yes ______ No ______

DO YOU PROMOTE AND SUPPORT ANY OFF-THE-JOB EDUCATIONAL ACTIVITIES FOR YOUR EMPLOYEES THAT ARE PROVIDED BY OUTSIDE SCHOOLS OR OTHER ORGANIZATIONS? Yes ______ No ______

WHAT VALUES OR ATTITUDES DO YOU THINK THE SCHOOLS COULD DEVELOP IN STUDENTS THAT WOULD MAKE THEM BETTER EMPLOYEES OF YOUR ORGANIZATION?

HOW DO YOU THINK THAT THIS CAN BE DONE?

IN WHAT PRACTICAL WAY(S) CAN YOUR FIRM OR ORGANIZATION HELP STUDENTS GAIN A MEANINGFUL UNDERSTANDING OF OCCUPATIONS AND WORKING FOR A LIVING?

ARE THERE PARTICULAR COURSES THAT A HIGH SCHOOL STUDENT CAN STUDY THAT WOULD BE ESPECIALLY USEFUL IF EMPLOYED BY YOUR FIRM?

ARE YOU AS AN EMPLOYER, KEPT SUFFICIENTLY INFORMED OF CONTINUING EDUCATIONAL SERVICES THAT ARE, OR CAN BE, MADE AVAILABLE TO THE EMPLOYEES OF YOUR FIRM?

HOW IS THIS INFORMATION MADE KNOWN TO YOUR EMPLOYEES?

WHAT HAS BEEN THE RESPONSE?

DO YOU BELIEVE COMMUNICATIONS ABOUT PROBLEMS OF MUTUAL INTEREST ARE SATISFACTORY BETWEEN YOUR MANAGEMENT AND LOCAL EDUCATORS?

Yes ______ No ______

IF NO, WHAT DO YOU THINK SHOULD BE DONE?

AT WHAT LEVEL SHOULD THIS BE DONE?

WHAT IS YOUR REACTION TO THE PROPOSAL OF SUBSIDIZING EMPLOYERS WHO PROVIDE ON-THE-JOB TRAINING FOR THOSE INDIVIDUALS NOT QUALIFIED FOR EMPLOYMENT BECAUSE OF INEXPERIENCE?

ARE ALL YOUR EMPLOYEES ELIGIBLE FOR TUITION OR FEE REFUNDS FROM EMPLOYEE SELECTED, FIRM SANCTIONED, EXTENSION OR CORRESPONDENCE COURSES?
WHAT PORTION?

WHAT IS YOUR ANNUAL COST FOR THIS SERVICE?

HOW IS THIS COST FUNDED?

HOW DO YOU SECURE INFORMATION FROM OR ABOUT YOUR EMPLOYEES REGARDING THEIR INTEREST AND NEED FOR FURTHER EDUCATION, TRAINING, OR RETRAINING?

WHO, IN YOUR FIRM, IS RESPONSIBLE FOR ADMINISTERING THE TRAINING PROGRAM?
WHAT PERCENT OF HIS TIME IS ALLOCATED TO THIS RESPONSIBILITY?

WOULD YOUR FIRM (OR ORGANIZATION) BE INTERESTED IN JOINT RESEARCH ON SUCH PROBLEMS AS DETERMINING THE NEED FOR TRAINING, OPTIMUM TRAINING METHODS, MOTIVATION AND RECEPTIVITY, AND EVALUATING TRAINING?

Yes ______ No ______

WHAT ARE YOUR CONCLUSIONS ABOUT THE REAL RETURN ON THE COMPANY RESOURCES THAT HAVE BEEN COMMITTED TO TRAINING IN YOUR FIRM?

Survey Code No. _____

OFF-THE-JOB EDUCATIONAL ACTIVITIES - FOR EMPLOYEES ONLY

Use a copy for each training activity. This should be limited to current, recent (within the last year) or definitely committed for the near future.

Name of Activity ____________________

Occupational Group(s) included ____________________

On what basis was eligibility determined and how and by whom was selection of participants made? ____________________

____

What content is covered? ____________________

Who are the instructors? ____________________

What training have your instructors received to improve their teaching skill?

____

What method of teaching is used? ____________________

How many hours are scheduled _____, and over what period of time? __________

How many participate at a time? _______ Total number per year __________

Does activity take place on company time ____ employee time ____ joint _____?

What training facilities are provided (where and how well equipped)? _______

____

Why was this training activity started, when, and by whom? __________

____

How do you fund for this training activity? ____________________

How much is funded? ____________________

How do (or will) you measure the value and/or effectiveness of this training effort? ____________________

____

Survey Code No. ____

PROMOTED AND SUPPORTED OFF-THE-JOB EDUCATIONAL ACTIVITIES MADE AVAILABLE TO BUT NOT LIMITED TO THE FIRM'S SELECTED EMPLOYEES AND PROVIDED BY OUTSIDE SCHOOLS OR OTHER ORGANIZATIONS

Use a copy for each training activity. These activities should be current, recent, or definitely committed for the near future and only those supported financially by your firm in some way. The schools may be public, private, professional organizations, correspondence, or vendor schools. Do not include conventions. Exclude employee selected extension or correspondence courses.

Educational activity or type of course, and purpose ____________________

____

Occupational groups included ____________________

How many of your employees participate? ____ How are they selected? ____

____

Is attendance by selected individuals voluntary? ______ or expected? ____

Which school provides this educational activity? ____________________

How many hours and for how long is it scheduled? ____________________

What recognition is given the employee who successfully completes this educational activity? ____________________

____

What is the firm's policy regarding the financing of this activity? ______

____

____

How do you fund for it? ____________________

What is the estimated expenditure, "out of pocket" ______________ and/or "lost salaries" ______________ for providing this activity?

How do you measure or evaluate the return on the firm's investment in this training activity? ____________________

____

____

School of Education
University of California, Berkeley
Berkeley, California 94720

Dear Sir:

The attached questionnaire is part of the research study being conducted by the Department of Education, University of California, for the U.S. Department of Education. The purpose of this study is to provide information that should assist educators in planning school curricula and improving teaching methods to better prepare students for employment.

The reliability and value of this study depends, in part, upon all the questionnaires being returned without delay. Please take a few minutes now to check (✓) your answers and return the completed questionnaire in the enclosed self-addressed, postage-free envelope.

Reports of this research study will be made available through the Richmond Chamber of Commerce sometime next summer for those of you interested in the results.

Thank you.

Very truly yours,

John A. McClure

DR. JOHN A. McCLURE
Associate Professor and Investigator

Business Telephone: 845-6000
ext. 4215

Survey Code No. ________
1 2 3 4

Name of firm
or organization ______________________________

Standard Industrial
Classification Code: ___
5 6 7

Address ______________________________

Date ______________

Respondent's name and title ______________________________

8

Products made and the processes used, or type of service provided ________

____

Total average number of employees in Richmond ______________
10 11 12 13

LIST THE JOB TITLES, AND NUMBER, OF YOUR EMPLOYEES UNDER THESE OCCUPATIONAL GROUPS USING THE FOLLOWING DEFINITIONS AS YOUR GUIDE:

OPERATIVE - production or service worker whose necessary related job knowledge is usually learned on the job ______________

____

JOURNEYMAN-TRADE CRAFTSMAN - apprenticeship of on-the-job experience and off-the-job broadly related course work required, or its equivalent gained from years of self-education and experience ______________

____

CLERICAL - major part of time is spent in correspondence, records, accounts, office machine operation and/or PBX ______________

____

SALES - salesman, sales clerk ______________________________

TECHNICIANS - minimum of two years of college with course work in technology, or its equivalent in self-education and experience ________

____

PROFESSIONAL - degree required or its equivalent in self-education and experience ______________________________

SUPERVISORY-MANAGERIAL ______________________________

WHAT ARE YOUR USUAL MINIMUM EDUCATIONAL REQUIREMENTS OF APPLICANTS FOR EACH GROUP?

	OPERATIVES	TRADE CRAFTS	CLERICAL	SALES	TECHNICIANS	PROFESSIONAL	SUPERVISORY-MANAGERIAL	
None	18	19	20	21	22	23	25	1
None but must pass screening test								2
High school graduate								3
Two year college or technical institute								4
Four year college degree								5
Professional or technical degree								6

WHAT ARE YOUR USUAL MINIMUM EXPERIENCE REQUIREMENTS OF APPLICANTS FOR EACH GROUP?

	OPER.	TR CRFT	CLERICAL	SALES	TECH.	PROF.	SUPER-VISORY	
None	26	27	28	29	30	31	33	1
Previous work experience of any kind								2
Previous experience in similar work but with significant additional training expected								3
Sufficient previous experience in similar work so training will be unnecessary or inconsequential								4
Established reputation of competence								5

HOW IS SAFETY TRAINING HANDLED IN YOUR FIRM AND WHO IS INCLUDED?

	OPER.	TR CRFT	CLERICAL	SALES	TECH.	PROF.	SUPER-VISORY	
No job-connected accident hazards or health problems exist, safety training is deemed unnecessary	53	54	55	56	57	58	60	1
Hazards exist but no formal training program has been established								2
Formal group training is employed using safety posters, assignments to safety committees, films, safety booklets, contests, and/or safety meetings.								3

WHICH OF THESE STATEMENTS BEST DESCRIBES YOUR FIRM'S ON-THE-JOB TRAINING FOR EACH GROUP?

	OPERATIVES	TRADE CRAFTS	CLERICAL	SALES	TECHNICIANS	PROFESSIONAL	SUPERVISORY-MANAGERIAL	
	42	43	44	45	46	47	49	
Jobs are so simple they can be learned with a minimum of direction, no instruction necessary								1
The new employee, to learn the job, is placed with an experienced employee or supervisor; instruction is spontaneous or given when asked for								2
The new employee, because of required previous experience, union assignment, or technical training, is expected to do the job with minimum direction								3
The new employee learns the job under carefully planned instruction and mastery measurement made by his supervisor or job trainer								4

DO YOU FOLLOW A PLANNED INDUCTION OR ORIENTATION PROCEDURE FOR NEW EMPLOYEES?

63 Yes _____ No _____

WHAT UNIONS, IF ANY, REPRESENT YOUR EMPLOYEES? ____________________

14

____

DOES YOUR UNION CONTRACT AFFECT YOUR TRAINING OR RETRAINING ACTIVITIES?

17 (no union _____ 1 no effect _____ 2 encourages _____ 3 limits _____ 4)

DO YOU HAVE AN APPRENTICESHIP PROGRAM WHICH REQUIRES RELATED CLASS WORK?

65 Yes _____ No _____

DO YOU PROVIDE OFF-THE-JOB EDUCATIONAL ACTIVITIES FOR EMPLOYEES ONLY?

72 Yes _____ No _____

DO YOU PROMOTE AND SUPPORT ANY OFF-THE-JOB EDUCATION ACTIVITIES FOR YOUR EMPLOYEES THAT ARE PROVIDED BY OUTSIDE SCHOOLS, TRADE ASSOCIATIONS, CONSULTING FIRMS OR VENDORS?

73 Yes _____ No _____

12 WHAT PREVALENT ATTITUDES OR VALUES, EXPRESSED OR DEMONSTRATED BY RECENT JOB APPLICANTS, DO YOU THINK THE HIGH SCHOOLS SHOULD ATTEMPT TO CHANGE IN THEIR STUDENTS? (check one or more of the following)

___ 1. Changes not indicated or necessary.

___ 2. Unwillingness to learn, work and/or be dependable in completing assigned tasks and in attendance.

___ 3. Unrealistic concept of relative worth to the employer and in promotions.

___ 4. Lack of willingness to do their best on the task or job assigned.

___ 5. Indifference to the employer's aversion to impudence, slovenliness, and/or extremes in dress.

___ 6. Unwillingness to accept and adjust to the employer's ways or methods of doing the assigned tasks.

___ 7. Failure to use systematic reasoning in problem solving to get reliable answers.

___ 8. Don't know or prefer not to answer.

___ 9. Other ______________________________

13 HOW DO YOU THINK THIS ATTITUDE CHANGING CAN BE DONE BY THE SCHOOLS?

___ 1. Exercise discipline in the schools by requiring the students to adhere to standards of conduct, performance, and/or appearance.

___ 2. Require each student to work to his full capabilities in earning his promotions.

___ 3. The schools need to place more emphasis on teaching methods that develop systematic reasoning in problem solving and judgment in recognizing the reasonableness of the answers.

___ 4. I don't know how it should be done.

___ 5. Teach the student personal grooming, expected work-place conduct, interpersonal relations, and/or how to apply for a job.

___ 6. Teach the student about occupations, employment, and our economic system.

___ 7. Provide realistic vocational counselling that stems from a thorough knowledge of occupations and employment requirements.

___ 8. The schools cannot or need not improve attitudes.

___ 9. Other ______________________________

14 IN WHAT PRACTICAL WAYS CAN YOUR FIRM OR ORGANIZATION HELP STUDENTS GAIN A MEANINGFUL UNDERSTANDING OF OCCUPATIONS AND WORKING FOR A LIVING?

___ 0. There is no practical way in which we can help.

___ 1. Provide company tours for teachers, counsellors, and/or students.

___ 2. Give talks to student classes about jobs and job requirements of our company.

___ 3. Get involved in business education or career day programs.

___ 4. Provide part-time work for high school students.

___ 5. Participate in work-study or cooperative programs.

___ 6. Provide summer employment for high school students.

___ 7. Provide summer employment for junior college or college students.

___ 8. Prepare and provide printed materials or films on occupations and employment and other pertinent information about our firm.

___ 9. Other ____

15 ARE THERE PARTICULAR COURSES THAT A HIGH SCHOOL STUDENT CAN STUDY THAT WOULD BE ESPECIALLY USEFUL IF EMPLOYED BY YOUR FIRM?

___ 0. None, in particular.

___ 1. Intense review in English grammar, penmanship, basic spelling, reading and/or arithmetic.

___ 2. Physical and biological sciences and/or mathematics.

___ 3. Business courses.

___ 4. Shop courses (including mechanical drawing).

___ 5. Blueprint reading.

___ 6. Humanities.

___ 7. Interpersonal relations--i.e., how to react to others, how to deal with the public, personal courtesy, grooming, how to apply for a job.

___ 8. Valid business economics, including emphasis on costs and return on investment.

___ 9. Other ____

____

16 HOW ARE YOU, AS AN EMPLOYER, KEPT INFORMED OF COURSE ANNOUNCEMENTS FROM THE LOCAL SCHOOLS?

___ 0. We receive announcements from: adult evening schools^{1}___, community colleges^{2}___, University Extension^{3}___, trade associations^{4}___.
___ 5. We do not receive information from any of the local schools.
___ 6. We regularly call the schools for course information.
___ 7. We work with school representatives in developing courses to meet our training needs.
___ 8. Announcements are brought to us by school representatives.
___ 9. Other ____

17 HOW IS THIS INFORMATION MADE KNOWN TO YOUR EMPLOYEES?

___ 0. No information is received.
___ 1. We call employees' attention to the announcements, individually.
___ 2. We include it in employees' newspapers.
___ 4. We put the course announcements on the bulletin board.
___ 5. The information is not passed on.

18 WHAT HAS BEEN THE RESPONSE TO THESE ANNOUNCEMENTS?

___ 1. Employee response has been good.
___ 2. Little or no response.
___ 3. Some response but should be much better.
___ 4. We have not measured the response.

19 DO YOU BELIEVE COMMUNICATIONS BETWEEN YOUR ORGANIZATION AND LOCAL EDUCATORS ABOUT PROBLEMS OF MUTUAL INTEREST NEED TO BE IMPROVED?
No communication needed _____ Yes _____ No _____

20 IF YES, WHAT DO YOU THINK SHOULD BE DONE?

___ 1. Responsible school representatives conversant in business and/or industry should contact us.

___ 2. Business-Industry-Education councils should be organized to serve as the channels for communications.

___ 3. Teachers and counsellors should be allowed and encouraged to learn first hand about business and industry.

___ 4. Our management personnel should be encouraged and supported in serving on school boards and in active participation in other community organizations whose objectives are helping to improve the schools.

___ 5. We have no suggestions.

___ 6. Other ____

22 WHAT IS YOUR REACTION TO THE PROPOSAL OF SUBSIDIZING EMPLOYERS WHO PROVIDE ON-THE-JOB TRAINING FOR THOSE INDIVIDUALS NOT QUALIFIED FOR EMPLOYMENT BECAUSE OF INEXPERIENCE?

___ 1. We are in favor but unable to participate.
___ 2. We are not in favor of the idea.
___ 3. We are already involved in a subsidy program.
___ 4. We already hire these people and without a subsidy program.
___ 5. We would participate if it were well planned and coordinated.
___ 6. Other ____

____

23 ARE YOUR EMPLOYEES ELIGIBLE FOR TUITION OR FEE REFUNDS FROM EMPLOYEE SELECTED, FIRM SANCTIONED, EXTENSION OR CORRESPONDENCE COURSES?

___ 0. No.
___ 1. All employees are eligible.
___ 2. Only salaried employees are eligible.
___ 3. Individual employees are eligible on a selective basis.
___ 4. No policy.

24 IF SO, WHAT PORTION?

We refund for: tuition ___ 1, fees ___ 2, texts and supplies ___ 3, travel expenses ___ 4

In the amount of: all ___ 5, 3/4 ___ 6, 1/2 ___ 7

With an annual maximum of $______________.

Our total annual cost for this service is about $______________.

30 DO YOU USE ANY UNUSUALLY EFFECTIVE TRAINING TECHNIQUES THAT YOU HAVE DEVELOPED OR ADOPTED THAT COULD BE OF INTEREST TO OTHER EMPLOYERS AND EDUCATORS?

Yes _____ No _____

If yes, please explain ____

____

____

____

____

____

____

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